



amateur radio

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DECEMBER
1967

25c

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W.I.A. OFFICIAL BROADCASTS

NEW SOUTH WALES		QUEENSLAND	
VK2W1, Sundays, at 1100 hrs E.A.S.T.	3595 Kc. a.m.	VK4W1, Sundays, at 0900 hrs. E.A.S.T.	3590 Kc. 53.995 Mc.
	145.130 Mc. a.m.		7146 Kc. 144.38 Mc.
	7146 Kc. a.m.		14.342 Mc.
	53.666 Mc. a.m.		
	(53.950 Mc. f.m. proposed shortly)	SOUTH AUSTRALIA	
		VK5W1, Sundays, at 0900 hrs. C.A.S.T.	2.5, 14, 32 and 144 Mc. bands.
		WESTERN AUSTRALIA	
		VK6W1, Sundays,	
		TASMANIA	
		VK7W1, Sundays, at 1000 hrs. E.A.S.T.	3572 Kc., and re-transmitted by representative stations on—
			7140 Kc. 144.1 Mc. 53.032 Mc. 432.6 Mc.

FEDERAL ORGANISATION OF W.I.A.

Last month a series of news items appeared on Divisional broadcasts and in "A.R." which referred to Federal matters. What is the Federal set-up of the W.I.A.? Broadly speaking, the situation under the existing constitution is this. Each Division appoints a Federal Councillor, who represents that Division's views at the annual Federal Convention of the W.I.A., held over Easter. At this Convention, W.I.A. policy for the coming year is determined, by all Divisions exercising one vote each, and voting on motions which had been submitted prior to the Convention. These motions having been previously discussed by all Divisions at Council meetings and general meetings, the Federal Councillor carries to the Convention his Division's voting instructions and exercises a vote on behalf of his Division. If there is a simple majority of votes in favour, then the motion is passed and becomes part of Institute policy. However, minutes of the Convention are prepared and circulated to all Divisions after the Convention and the vote of their Federal Councillor is ratified by each Division. It is becoming common procedure for Divisions to instruct their Federal Councillor to vote "at his discretion," and later ratify that vote. This allows for an open exchange of views between delegates, and allows the Federal Councillors to change their views on any matters, having listened to the points of view expressed by other States.

Following the Convention, the task of implementing W.I.A. policy falls to Federal Executive. This body consists of seven voting members, and several co-opted officers. It has been traditional for the personnel of Executive to be appointed from the Headquarters Division—that is the Division in which the Central Office of the Postmaster-General's Department is situated. This has been Victoria for some time, and thus the Divisional Council of the Victorian Division appoints Executive each year. These appointments are circulated to the Divisions for acceptance, and nominations are made to the offices of President, Secretary, etc.

What tasks do the members of Executive undertake? Generally these can be summed up in the three words **representation, liaison and administration**. Executive represents the whole Australian Amateur Service to outside bodies; especially to the regulatory bodies—the PMG's Dept., the I.T.U., etc. This representation is also often on behalf of a particular State, or an individual Amateur. The **liaison** undertaken is between the six States, and also between overseas Amateur Societies, the I.A.R.U., etc. **Administration** concerns Executive in the fields of contests, awards, QSL, SWL, YRS, etc., much of this activity being undertaken by co-opted officers.

All these activities are financed through the "per-capita" payments made each year to Executive by Divisions. Each Division contributes a lump sum based on total membership at the rate of 30 cents a head. This payment gives financial standing to a Division at the annual Convention and allows its vote to be exercised. In addition to this money, there is the I.T.U. Fund. This is in the nature of a trust fund for the sole purpose of sending a representative to a conference of the I.T.U. which may be discussing Amateur frequency allocations.

One implication of all this is that if you, the individual member of W.I.A., feel that you have some aspect which is causing concern, then send details to your Federal Councillor. These will be discussed and a Federal Convention motion drafted, circulated to all Divisions, and eventually discussed and voted on in Sydney next Easter. This is the time of year for submitting items for the Federal Convention. Do you have any? (Practically all items submitted to the Hobart Convention this year have been dealt with by Executive, and we will be giving details in forthcoming news releases.)

I.A.R.C. ANNUAL CONVENTION

The convention of the International Amateur Radio Club was held in Geneva over the week-end of 23rd and 24th September this year. Some details of events there have been received by Executive, both directly from I.A.R.C. and from the I.A.R.U. Region I. Committee. A word of explanation; there are at least two important International Amateur Radio organisations with which Amateurs should be concerned.

Firstly, the I.A.R.U., which is an international organisation of **Amateur Societies**, with its present headquarters with A.R.R.L. in the U.S.A.

Secondly, the I.A.R.C., which is an international organisation of **Individual Amateurs**, with its headquarters in Geneva, Switzerland, and with the well known Amateur Station 4U1ITU.

Both these organisations have as an ultimate aim the encouragement, maintenance and preservation of Amateur Radio, but they go about this in different ways. I.A.R.U. and I.A.R.C. are **not** in competition, members of I.A.R.C. are office-bearers in I.A.R.U. regional organisations, and also office-bearers in national societies such as A.R.R.L., R.S.G.B., W.I.A., etc. Hence the liaison between I.A.R.U. organisations and I.A.R.C. is obtained in this personal manner, as well as on a formal level as between I.A.R.C. and I.A.R.U. member societies. (As a member of W.I.A. you have a connection with I.A.R.U. because W.I.A. is a member country of the Union, however you can join I.A.R.C. as an individual Amateur for the fee equivalent to \$USS (I.A.R.C., Box 6, CH-1211, Geneva 20, Switzerland), just as members of Federal Executive and Federal Councillors have joined as individuals.)

I.A.R.U. states as part of its objectives, "... the effecting of co-operative agreements between national Amateur Societies ... on matters of common welfare." The President of I.A.R.C. has been quoted as saying, "I again wish to state emphatically and clearly, that we have always opposed any attempt to compete with national organisations or the I.A.R.U. The I.A.R.C. is not an instrument to perform duties which are incumbent upon those institutions. We see our aims in doing something for our hobby which can be done more easily by us than the I.A.R.U. We are at a somewhat different level, but have exactly the same feeling for the development of Amateur Radio as all national associations and their co-ordinating bodies have."

The I.A.R.C., being located in Geneva, has a unique opportunity to liaise with the officials of I.T.U., and with delegates to I.T.U. conferences. In fact, as stated in last month's "A.R." the World Maritime Mobile Conference has been held in Geneva this year, and the Secretary-General of I.T.U. (M. Mohamed Mili) held a reception for the heads of delegations and invited representatives of the Amateur Service. M. Mili has consented to become Patron of the I.A.R.C. and he attended the opening of their Annual Congress, at which he delivered an address. His concluding comments are worthy of note:

"... Your movement is therefore a magnificent one which brings men closer together—a movement which, in addition to its contribution to scientific progress, ... fosters the fraternalism which is the very basis for the maintenance of peace.

"Yesterday I happened to read an article written by one of you, Mr. Peter Schroder. It was written in 1957—just ten years ago—and published in the I.T.U. Telecommunication Journal in January 1958. In that article, Mr. Schroder attempts to define the aims of the Amateur Radio movement and in conclusion, I cannot do better than repeat two sentences at the end of the article which, in my opinion, provide a perfect definition of your movement. This is what the author said: 'One of the most significant aspects of the I.A.R.U. lies in its role as a force for world peace and understanding. It has already been noted that the furthering of international fraternalism was a stated objective of the Union, and to this aim it has consistently adhered since the organisation was first devised a quarter of a century ago.' (Continued on Page 13)

Now for the 20. Remove transformer V84 (grid of 6AQ5 driver) and rewind with 13 turns of 16 B. & S. Change plate coil of this stage to 12 turns of

T6, Neutralising the 6J6: With the set tuned up and the grid current meter in place, pull out the transmitter crystal. The grid current should drop to zero. If it does not, adjust the neutralising trimmers until it does. Replace the crystal before calling CQ!

(Continued on Page 18)



It is not unusual for a receiver to "take off" with the serial not connected. Therefore make sure you have an aerial on the set when you are tuning up.

For the Junior with 6J6 final. Change the grid coil of V22 to 30 turns of 20 B. & S. $\frac{1}{8}$ " i.d. close wound self supporting (26 Mc.). Change the plate coil of V22 to 11 turns of 16 S.W.G. $\frac{3}{8}$ " i.d. close wound (52 Mc.). Change the grid coil of the 6J6 to 11 turns centre tapped close wound 16 S.W.G. $\frac{1}{8}$ " i.d. wound in the same sense as the previous coil. The D.s. plate coil be-

MORE TRANSISTOR SIDEBAND

COL HARVEY,* VK1AU

WHILST the circuits published in "A.R." Feb. 1967 worked well enough, further fiddling produced some improvements which are worth considering for any similar project.

MIXING

Because the conventional transistor mixer was somewhat critical in respect of injection voltage, and produced an undesirably large amount of the injection frequency in the collector load, many alternative types of mixer were tried. The simple double diode mixer, rejected initially, because it looked too simple to be effective, when tried, turned out to be the equal of any transistor mixer which had preceded it! It was also cheaper, smaller and easier to install. The revised circuit appears at Fig. 1.

DIODE MIXER.

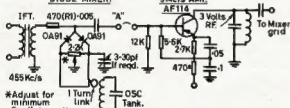


FIG. 1.

If R1 is removed, gain and distortion rise, therefore choose a compromise value. About 1/2 volt r.f. is all that is needed across the balance potentiometer, and 1 volt across the i.f. transformer secondary. Too much oscillator r.f. may prevent balance. Note that the emitter resistor should be 2.2K and not 2.7K as shown. Also the supply voltage is 12V.

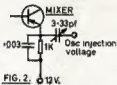


FIG. 2. 12V.

Notation for Fig. 2.—Although the 0.003 μ F. by-pass capacitor would appear to shunt the injection voltage to ground, VK1AS reports increased conversion gain, and a need for considerably less injection voltage.

Fig. 3a.—By adjusting the emitter resistor slider upwards, the stage gain can be increased to the level desired, or to a point which just precedes regeneration!



FIG. 3a. 12V.



FIG. 3b. 12V.

The original mixer transistor has become a 9 Mc. amplifier which (with full carrier) now provides about 3 volts of r.f. at the collector. By using a miniature 1K pot. in the mixer, it was easy to mount the diode mixer and its amplifier in the space previously occupied by the transistor mixer alone.

VK1AS experimented along similar lines in his transmitter and reached the same conclusion. But later, in developing his receiver mixer, he found the circuit at Fig. 2 advantageous.

For those using conventional emitter injection mixers, it may be worthwhile to try varying amounts of emitter by-pass capacity, before deciding upon Fig. 1.

INSTABILITY

In the case of VK1AU's exciter, the extra output from the latest mixer board (Fig. 1) caused some minor difficulties with regeneration, which became noticeable when the linear amplifier was in use. The classical cures of resistance damping, and/or neutralisation were unattractive due to the adverse effect on the r.f. drive level to the linear, and mechanical difficulties. Fortunately, there is a solution, so simple that it shouldn't work—but it does.

Again, a miniature pot. allows the modification to be done on the original matrix board. This method provides better flexibility than that provided by a fixed resistance in series with a by-pass capacitance—Fig. 3b.

Slight regeneration can be hard to identify. Large amounts will always

"spiky" with no residual thickening of the time base on speech peaks.

Up to 1" of flattening of peaks (on a 5" c.r.o.) seems to be unnoticed in listening tests on the wanted sideband. However, excessive flat-topping is best recognised by the increase in monkey-chatter (i.e. distortion products) appearing on the unwanted sideband as the amount of flat-topping is increased. For this reason alone, it is best to adjust stage-gains (and audio and r.f. peak limiters) so as to avoid more than a small amount of visible flat-topping. So far as residual carrier is concerned, listener reports remain favourable unless the c.r.o. time base shows more than a thickening of about 1".

V.F.O.

Since the original exciter was submitted, a transistor 1.7 Mc. v.f.o. has been added, based on the "Electronics Australia" circuit of Jan. '67. Intending constructors can be confident of plenty of output, with stability to match.

Worthwhile alterations are the mounting of the v.f.o. transistor in a heat sink—a 1" square aluminium rod bolted to the matrix board, with a transverse 1" hole, into which the transistor case of the AF114 "plugs", thus eliminating mechanical and thermal instability. The other alteration is a series trap in the v.f.o. amplifier collector circuit to reduce a troublesome v.f.o. fourth harmonic, which (by bad choice of frequencies) fell on the high end of the 7 Mc. band and appeared as carrier which could not be fully suppressed.

If it is desired to use PNP transistors such as the AF114 as I did, rather than the NPN BA102 and BC108s specified in "Electronics Australia," simply reverse the power supply polarity (e.g. by use of a separate battery).

POWER SUPPLY

Initially, the exciter was run from a so-called voltage "doubler" supply, fed from a 6.3 volt filament winding (Fig. 4). A surprising amount of capacitance was needed to remove ripple from a voltage doubler supply. In my case, 1,500 μ F. was barely enough.

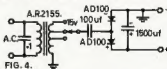


FIG. 4.

Again the effect shows well on the c.r.o., which displays a definite 100 c.p.s. component superimposed on the residual carrier. This shows as a thickening of the time base, or at low sweep speeds, as an unsynchronised and distorted wave form drifting along the time base, which cannot be eliminated by operation of the carrier balance controls.

At low current drain, voltage doubling (and almost tripling) does indeed take place. However, on heavier loads

appear as unsuppressible carrier, accompanied by sluggish action of the linear plate mA. meter.

The effects of regeneration can best be seen on an oscilloscope. If the time base frequency is first chosen so as to display an easily identifiable audio pattern, regeneration will be seen as a "blurring" of the r.f. pattern, generally accompanied by a rise in amplitude of the pattern immediately adjacent to and along the horizontal time base. Close examination suggests that this is carrier re-insertion due (and proportional) to modulation.

When the carrier is sufficiently suppressed and regeneration is absent, the r.f. pattern on the c.r.o. looks just like a normal audio pattern, i.e. crisp and

* 36 Leaze Street, Hughes, A.C.T., 2605.

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the output voltage drops sharply, the exciter described reducing the output voltage to less than 8 volts. The status quo can be restored by increasing the a.c. input, and in my case, 9 volts a.c. in, gives 12 volts d.c. out, providing the load remains connected. Note that with this input, the output voltage will rise to about 22 volts with a light load, so care needs to be taken not to accidentally disconnect individual matrix boards (particularly those using OC44s for example) whilst the power is on. One can protect such boards with a 12 volt zener, but this is rather expensive.

The inherent danger in using a power supply with such poor regulation, prompted some experiments with regulated supplies. Surprisingly, none of the simple circuits tried, did better than about 5% regulation, and all suffered from loss of control at the high voltage end of the operating range, fortunately, not to the extent demonstrated by the doubler circuit. The circuit now in use is shown at Fig. 5.

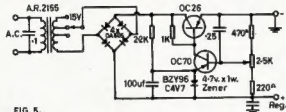


FIG. 5.

If a zener is not available, use 3 or 4 volts of battery voltage as a reference. A higher reference voltage prevents the control potentiometer selecting an output voltage less than the reference voltage. Note: The value of the capacitor from the regulated plus line to earth is 500 uF.

Because at low output voltages, the series regulator must dissipate the difference between input and output requirements, an input voltage should be selected which is not unnecessarily high for the intended application, e.g. use of 21 volts rectified d.c. input for long periods, for 4 volts regulated out, will (at 300 mA.) produce quite serious heating in both the regulator and control transistors, and if a 400 mW. Zener (such as the BZ95 (4V7)) is used, probably destroy it. The values given in Fig. 5 result in cool operation at 12 volts output, and neither transistor requires a heat sink. A d.c. input voltage should be selected which allows the voltage control potentiometer to be set near mid-range.

The beta of the control transistor has a significant bearing on the upper limits of regulation, as Table 1 shows. At 12-14 volts regulated, the level of safety

offered by either the OC70 or the OCT2 is adequate.

TRANSISTOR SERVICEABILITY

There is an occasional need, in a transistorising project, to decide whether the circuit is inoperative for reasons other than use of a faulty transistor. Cases of oscillators which won't oscillate, or amplifiers which won't amplify inevitably cast a doubt in the serviceability of the transistor. Rough checks for inter-element shorts and amplification capability (beta) can be made with an ohm meter, but I found it more convenient to build up a simple transistor tester. The circuit at Fig. 6 allows approximate d.c. amplification (up to 150) to be checked, as well as leakage and shorts. It is also most instructive in demonstrating the avalanche effect of an ever increasing beta if the case of the germanium transistor under test is heated by the soldering iron! Regrettably, it does not follow in practice that stage gains can be doubled by prodding the iron on the transistor!

CONSTRUCTION

Transistor projects have a common factor with their valve counterparts, i.e. they also need breadboard techniques when first developing circuits. Rather than use matrix board from the beginning in permanent commercial fashion, it is recommended that tags-eyelets-lugs be used freely, and that pigtails

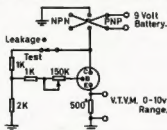


FIG. 6.—SIMPLE TRANSISTOR TESTER

Test Positions (R equals 0 ohms):
C-E Short ————— Reads 9v.
C-B ————— " 9v.
B-E ————— " 2v.
C Open ————— " 2v.
B or E Open ————— nil
Normal ————— 50v.

Calibrate the potentiometer in multiples of 25K ohms, i.e. 25-50-75-100 (kilo ohms). Adjust until meter reads 2 volts d.c. Beta is approximately the number of kilo ohms of potentiometer in circuit, i.e. 50K equals Beta of 50. Beta will change with supply volts, but this is immaterial when the test is aimed at matching transistors or detecting gross deviations from normal amplification. Note that the spread of amplification factors, in production transistors, is quite broad.

be left long so that circuit changes can be made easily without mechanical or heat damage to components.

This technique also makes it possible to change or check transistors quickly, and avoids the situation whereby removed components, including transistors, are made useless for later projects due to the shortness of the remaining pig-tails.

Only when stage gains and circuits have been proved satisfactory, is it wise to embark on permanent methods of construction, and only then if the constructor is prepared to abandon matrix board components in the event of subsequent component failure.

THE FUTURE

Fortunately for the future of Amateur Radio every project seems to lead naturally to another. Where, only a few months ago, transistorising the transmitter was the sole objective, exposure to the world of solid state devices has revealed a further challenge which will be difficult to resist.

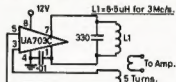


FIG. 7a. BASIC INTEGRATED CIRCUIT V.F.O.

A Fairchild Technical Bulletin (No. 5-1967) suggests that there will be advantages in re-working the i.f. strip and the oscillators so as to use integrated circuits such as the UA703 (which comprises 5 transistors and 2 resistors in an 8-lead TO5 case). "Due to such excellent limiting characteristics that a.g.c. is unnecessary even in very high gain i.f. amplifiers," it might even be possible for this device to operate as an automatic i.f. strip "compressor" (and possibly also as a transformerless balanced modulator).

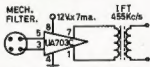


FIG. 7b. AN INTEGRATED CIRCUIT I.F. STRIP. (With 26 DB. Gain.)

The attraction can be seen well from Fig. 7a which shows a complete V.F.O., and from Fig. 7b which shows the next i.f. strip which will be tried at VK1AU.

Even at \$4.10 a time, these integrated circuits seem to offer sufficient advantage in simplicity and size to warrant a few experiments. So, tidying up the present breadboard layout is once again a long-term objective.

On-Load Voltage	Off-Load Voltage	OC72	OC70
17	22	18.5	
16	17	17	
15	16	16	
14	14.7	15	
13	13.5	13.7	
12	12.2	12.7	
11	11.5	11.7	
6	6.2	6.1	

Table 1



Book Review

"WORLD AT THEIR FINGER-TIPS"

By John Clarricots, past R.S.G.B. General Secretary, 1930-1963. This magnificent 300-page volume traces the history and growth of the R.S.G.B. and Amateur Radio in the U.K. since the turn of the century. It contains 31 chapters and more than 40 illustrations.

Pat Hawker, writing the "Introduction," comments: "No longer can we be sure that all newcomers to the hobby will hear firsthand reminiscences of the pioneers; more and more vital has it become for the records to be written into one continuous story."

John Clarricots does this admirably. Every discerning Ham, wishing to know what his hobby is all about, must have this one on his bookshelf.

Price: Paperback 12/-, de luxe 42/8 (Sigs). Available from R.S.G.B., 28 Little Russell Street, London, W.C1.

"THE WORLD OF MR. SHERATON"

By Ern. Henderson, WIAUC/WIUDY. This is an amazing "Rags to Riches" autobiography, of one of our fraternity. This man, from the most humble

beginnings, built himself a Motel and Hotel Empire in the U.S.A., to the value of 400 million dollars.

Humorous episodes vie with fascinating accounts of business ventures. Mr. Henderson, who became universally known as "Mr. Sheraton," devotes a thought-provoking chapter to his own personal philosophy of life. Many references are made to Amateur Radio throughout its pages. The author is an extremely good story-teller, and it is difficult to put this book down.

Price: Originally \$4.50 (U.S.).

CHANGE OF MEETING PLACE

MOORABBIN AND DISTRICT RADIO CLUB

Editor "A.R." Dear Sir,
As from Friday, 20th October, 1967, the Moorabbin and District Radio Club has been holding its meetings at the rooms of the Moorabbin Baseball Club in Summit Avenue, Moorabbin.

Summit Avenue is on the eastern side of Bluff Road, half a mile south of the intersection of Bluff Road and South Road.

Club meeting nights will continue to be the first and third Fridays of each month and, as always, non members are welcome.

For purposes of correspondence, the club's address will be:

4 Elizabeth Street,
East Brighton, Vic., 3187.

—Harold L. Hepburn, Hon. Sec.

Modification of BM3 Mike for Switch-to-Talk Operation

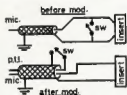
GEOFF WILSON,* VK5AME

The Japanese BM3 crystal microphone has been available for some years now at a reasonable price and has been quite popular. Having used one for four years on an a.m. rig, I decided to modify it for use with a s.s.b. transmitting using switch-to-talk.

As supplied, the BM3 has only the normal single-core shielded cable and a miniature screw type microphone plug and socket. The in-built switch simply shorts the insert to earth in the "off" position.

To convert to switch-to-talk the following method is used: Firstly, remove the switch retaining screws. The next step is to carefully remove the chrome retaining ring and cut the leads from the insert. Now the connector on the other end of the case is unscrewed and the leads cut. The switch is now drawn clear of the case.

Unscrew the grub screw on the cable connector and remove the spring cable protector. Knock out the fibre insulation in both connector pieces as in the converted set-up the connectors are used as an inlet for the cable only. The switch-to-talk requires the in-built switch to close in the "on" position and this means turning the inner section of it 180° to retain correct reading of the "on-off" indications.



The switch modification is simple and only requires easing the clamps on one side of the assembly to allow the inner section to be removed and turned end for end and replaced. Tighten the clamps and check the switch function to ensure it closes in the "on" position.

If it is not considered important that the switch shows "on" or "off" in the correct order, it may be left unaltered but it may cause confusion especially if used by someone who is in the habit of using properly marked gear!

Rewire the microphone with two-core shielded cable, connecting the insert directly to the co-ax. The switch-talk lead is taken to one side of the switch, the other side to earth. The cable is passed through the modified connector and the grub screw tightened to hold the cable. All that is now required is simply a suitable three-connector plug to suit the transmitter.

* 7 Norman Ave., Frankston, Vic.



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951/76

A PRINTED CIRCUIT TRANSISTORISED S.S.B. GENERATOR

A. S. LUNDY,* VK2ASI

FOLLOWING is a description of a compact all transistor 5 Mc. s.s.b. generator. Circuit board dimensions are 5" x 2 1/2" with a component depth of 2". Operation is from 12 volts at 8 mA. It was constructed as a basis for a 40 metre all transistor transceiver, which is planned for construction in the near future as an aeronautical mobile unit. Heterodyning to 2 metres with a balanced mixer is also contemplated.

of the trace exhibiting a greater slope than was really present.

The method of feeding the voltage dependent capacitor was also altered so as to cure an annoying back and forth drift of the scope pattern. The use of a potentiometer and a voltage dependent capacitor as the tuning element has also been used in the v.f.o. for the proposed transistor transceiver and gives excellent results. The filter shape obtained was quite satisfactory, ripple

DISCUSSION

Output from a high impedance crystal microphone is fed to the gate of a 2N4360 field effect transistor, then in a 2N3585 audio amplifier. A small interstage audio transformer supplies push-pull audio to the bases of a pair of 2N3693 balanced modulators. The signal is fed in parallel to the emitters, and the output is push-pull in the bifilar wound output coil. Exact balance is obtained by means of the 500 ohm pot. in the emitters, and this control can be mounted away from the unit if desired. Audio gain is controlled by the 100 ohm resistor in the positive supply to the audio stages. This can be replaced with a 500 ohm potentiometer if desired.

Input to the filter is via a capacitively tapped slug tuned coil wound on the same former as the balanced modulator bifilar coil. This former has two tuning slugs, one for each coil and is a t.v. plug-in coil 9/32" in diam. and 2" long. S.s.b. output from the filter is directly coupled to the 2N3693 amplifier base, the 470 ohm bias resistor is also the terminating resistor for the filter.

High impedance output to the grid of a following valve stage is taken from the collector of the 2N3893. A low impedance output is also provided to suit the base of a following transistor stage by means of the capacitive tap arrangement. The toroid coil across the filter was wound on the ferrite nut from the tank coil of the BC611 walkie talkie. A straight slug tuned bifilar coil can also be used.

TUNE-UP

The current drain of the various stages is as follows: 2N4360 1.5 mA., 2N3585 1.0 mA., balanced modulators 0.5 mA., crystal oscillator 3 mA., amplifier 2 mA.

(Continued on Page 101)

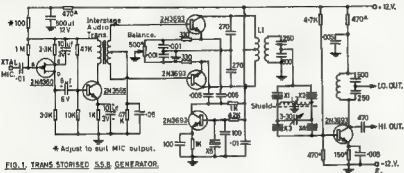


FIG. 1. TRANS-STORED S.S.B. GENERATOR.

FILTER

The film was constructed using 5205 Kx. F7243 crystals at 1000 Å per article in "R." and "R.T. & H." The crystals were etched to frequency using dilute hydrofluoric acid, washed in water and dried with methylated spirits, then ether. Separation between pairs was approximately 1.5 Kc. The bandpass shape was determined by means of a modified version of the "R.T. & H." December '83 sweep unit and a c.r.o. with a suitable vertical amplifier. Sweep speed was 8 cycles per second. The sweep unit as described in the "R.T. & H." article was unsatisfactory at this slow speed, the right hand side

was less than 2 db. and the shape factor less than 2 to 1.

CIRCUIT BOARD

The required pattern was painted onto the blank board using Shellac in methylated spirits, and then etched in ferric chloride solution. The shellac was then removed with spirit. Holes for the components were drilled with a 1/32" drill. Crystal holes are 3/32" slightly enlarged. The shield between the pairs of crystals is attached by means of 18 gauge copper wire through the board in three places, and goes across the full width of the board.

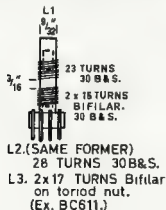


FIG. 2. COIL DETAILS

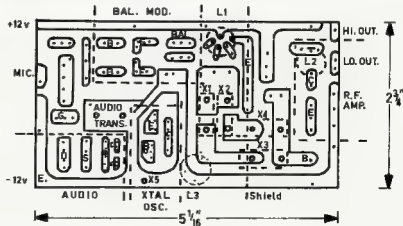


FIG. 3. PRINTED CIRCUIT BOARD LAYOUT.

* 26 Otha Street, Inverell, N.S.W., 2360.

Transistorised S.S.B. Generator

(Continued from Page 8)

The crystal filter was adjusted first using the sweep unit and c.r.o. No voltage was applied to the s.s.b. generator. Output from the sweep unit was applied to the collector of one balanced modulator via a few pF. capacitor and input to the c.r.o. was taken from the 470 ohm filter terminating resistor through a voltage doubling detector. The balanced modulator bifilar coil was adjusted for maximum scope pattern, then the filter input coil and toroid coil trimmer were adjusted for best filter response. A few pF. across one or more of the crystals will sometimes help.

The sweep unit was then disconnected and voltage applied to the s.s.b. generator. Input to the c.r.o. was then taken from the collector of the ampli-

fier stage via a small capacitance and the c.r.o. r.f. probe. The balance potentiometer was turned fully one way and the balanced modulator bifilar coil reaped for maximum pattern, then the amplifier stage tuned circuit was peaked. The balance control was then adjusted to reduce the carrier pattern, and it should be possible to get the carrier down to an almost indiscernable level.

Audio is then applied to the microphone and the usual s.s.b. pattern should appear. Output is about $\frac{1}{2}$ volt peak to peak, which should be sufficient for a following mixer. It is not possible to get any indication on a g.d.o. or diode plus meter, the use of a scope is necessary at the small power involved.

All transistors used are inexpensive Fairchild types, available from the manufacturer direct.

YOUTH RADIO SCHEME

There is no news this month which is not surprising as everyone is flat out working and studying for the end of the school year.

At this point I wish everyone a happy and safe holiday season and trust that all your plans and plans for 1967 come true. Don't forget the Y.R.S. rule for safety—"Build projects which operate on low voltage as mains work can be quite dangerous until you have considerable experience with the power of electricity."

Each State now has an active Y.R.S. Supervisor and shortly I hope to have a complete list of names and addresses. However, in the meantime, if you wish information, the quickest way would be to contact the Secretary of your State W.I.A. to get the name of your Y.R.S. Supervisor.

There is a special correspondence service for those unable to attend a radio club or classes. Roger Davis, VKIRJ, 14 Hovea St., O'Connor, A.C.T. 2801, is the Supervisor for the Correspondence Section and is always pleased to hear from anyone interested in learning radio by mail. There are printed courses available for each section of the total course which consists of the Elementary, Junior, Intermediate, Senior and Advanced. The course is designed especially for school children and, therefore, is done in easy stages to cover a period of three years approximately. However, it is not limited to school children and several adults have already started the course. A letter to Roger could open up a whole new world for you. Best 73, Mona YKAXS

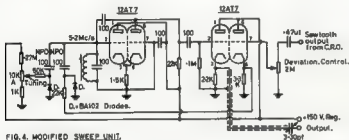


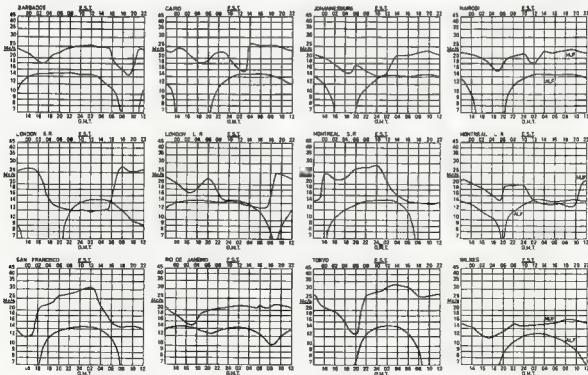
FIG.4. MODIFIED SWEEP UNIT.

CHANGE OF ADDRESS

W.I.A. members are requested to promptly notify any change of address to their Divisional Secretary—not direct to "Amateur Radio."

PREDICTION CHARTS FOR DECEMBER 1967

(Prediction Charts by courtesy of Ionospheric Prediction Service)



RHOMBICS AND CHAOS

A. J. C. THOMPSON,* VK4AT

WE, as a group, exist on sufferance as experimenters, mainly because of past pioneering radio successes by our Amateurs and to a certain extent also to our present Amateurs who toll by day in the professional field. This semi-professional type of writing by the above group is a product of modern trends. Without them the incomprehensible would remain as such to the average Amateur.

This does not necessarily mean that the non-technical Amateur is doomed to spend his leisure hours dial-twiddling or, if his pocket is elastic, to "duck talking". A glance through advanced technical books shows that all admit to having only a fractional knowledge of the subject under review.

Fortunately, advanced technical works are available from our city libraries, and are also available to the country dweller. These modern works include Electronics and Antenna Engineering Handbooks, etc. Except in the case of the research type their authors usually set out in understandable terms the non-technical principles discussed in the ensuing chapter. So actually the lofty title of the book can be ignored and similar treatment meted out to all squigly things observed in the text. Having spent some years in an institution where thousands of experiments were annually conducted, it was no hardship for me to curb my wishful thinking propensities and to judge facts without bias.

My present role as experimenter was forced on me. My QTH unfortunately is in the wrong end of a valley 100 miles N.W. from Brisbane. It is very badly situated for both t.v. and the Amateur bands, although the latter were tolerable with good conditions. I cast envious eyes on my southerly ridge 300 feet high and 2,000 feet distant, too far for transmission lines. Long wires towards Adelaide then Brisbane were followed by vees, then finally by a rhombic towards Sydney. (The rhombic encloses about 10½ acres with two-thirds mile of wire.)

In all cases, when their noses were poked over the top of that ridge they gave that consistency of signal which the multi-band type situated inside the valley had failed to give. The results were still disappointing, due to their directional characteristics and lack of signal strength in the desired direction. A combination of the two would be ideal. Actual contact on various points of the multi-band proved a failure.

Erratic success followed on the parallel connection of the 300 and 600 ohm feed lines and the inductive interaction of the fields, feeder to feeder, feeder to aerial, aerial to aerial, together with a right angle take-off from the apex of the rhombic's main axis. Swift switching arrangements were made for tests. These were:—

* Skyring Creek, Pomona, Qld.

- (1) Rhombic alone.
- (2) Multi-band alone.
- (3) Short section multi-band to right half of rhombic.
- (4) Long section multi-band to left half of rhombic.
- (5) Condenser across feeders.

The results were chaotic! Persistent efforts and consistent reports over long periods by long-suffering Amateurs gradually evolved a pattern of sorts. This became clearer when feeder radiation tests were conducted to see which legs were actually radiating during test periods. It appeared then that these curious and conflicting reports were due solely to an unorthodox application of standard procedures. The feeder tests showed that the transmitter would "see" the rhombic as one vee, the No. 3 group as another vee, and the No. 4 group as another vee. No. 5 would act as a slow switching device.

Once the rhombic and multi-band were connected by their feeders in parallel they ceased to exist as such. At this junction we could assume that:

- (1) The physical and electrical axis of the rhombic differed.
- (2) The impedance of each half differed.
- (3) The impedance (as connected) of half the rhombic matched that of the multi-band one way, but not in the other configuration.

The surprising features were that:—

- (1) Grounding of the feeders had little effect on either receiver or transmitter, but appeared to alter the radiation pattern.
- (2) The rhombic was a quiet aerial under QRN conditions with a tremendous advantage over all combinations on the receiver.
- (3) The multi-band combinations collected all the static around but, although more efficient, it was erratic in both cases.
- (4) The radio blanketing or skip conditions that affected the multi-band in the valley could mean at times a gain of up to 4 S points in favour of the rhombic combinations if they were unaffected (on reception).
- (5) The low-level rhombic gave a below-standard performance (on transmitter).
- (6) The signal strength as registered on the receiver would be an indication of transmission suitability on that particular aerial in the case of 80 metres but it was not so on 40 metres.
- (7) A slow QSB varied with two different aeriels and it was less pronounced with both together than with either separately.
- (8) The four ground "spears" were not at the same potential.

The minor effect produced by grounding both feeders could perhaps be explained by the unusual behaviour of terminating resistors. It appears that under certain conditions, two receivers can operate at opposite ends (across a R) and in opposite directions. The terminating resistor may be a "tapered" or transmission line of similar characteristic impedance or a suitable high loss attenuation line culminating in a resistor, centre tapped to earth. (The rhombics evidently are not fussy about which end these things go on) and I evidently just about reproduced these conditions on my end while still retaining an equally unorthodox resistor on the other end.

We note in passing that terminating resistors change "standing waves" rhombics to "travelling wave" types. This latter type have no antinodal points. The potentials and currents are approximately constant throughout its entire length. The feeder-radiation tests in conjunction with signal reports showed curious factors. The rhombic appeared to give its best performance when one half radiated. The least output was when both sides appeared to be electrically balanced with equal radiation. Each vee combination gave similar results. In each case, maximum signal strength coincided with maximum radiation from only one leg. We could reasonably assume that the other leg is acting as a conveniently situated "ground" or counterpoise.

To conclude. I do not advocate such stunts for transmission purposes but long wires and dual aeriels give very efficient service for receivers that single aeriels could not equal. The very thought of returning to a single aerial appals me. The fact that I got the right results by the wrong methods worries me not at all. What does worry me is the null that I have down Victoria way on 40 metres.

There is little doubt that, under my abnormal conditions, the combination multi-band and rhombic give the best results on transmission. (This is my standard antenna.) The multi-band is equal under good conditions. The same applies to reception except where QRN is present and presumably side-on. In that case the low-level rhombic is outstanding (This is my standard antenna at night time.) I belong to the non-technical group, but I still have accumulated enough knowledge to realise that some of those results are not what you would reasonably expect. The multi-band is off-centre fed with 300 ohm line with an aerial-tuner. The transmitter is a Command.

The low-level rhombic's main axis is along the top of a ridge and would be approximately 100 feet average height above the actual wires themselves. This means that the left hand side is separated from the right hand, except at each end, by this ridge.

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1-16	1/8"	16	3"	No. 3003	59c
2-03	3/8"	8	3"	No. 3006	70c
2-16	3/8"	16	3"	No. 3007	70c
3-08	3/8"	8	3"	No. 3010	82c
3-16	3/8"	16	3"	No. 3011	82c
4-08	1"	8	3"	No. 3014	95c
4-16	1"	16	3"	No. 3015	95c
5-08	1 1/8"	8	4"	No. 3018	\$1.28
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(equivalent to B. & W. No 3907 7")

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References: A.R.R.L. Handbook, 1961; "QST," March 1959; "A.R.," Dec. 1959.

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TRANSISTORISED 2-METRE F.M. TRANSMITTER

Herewith are circuit diagram and the layout of a 2 metre f.m. transistorised transmitter built and tested on the air about 18 months ago by VK3ZRK. Since then he has not been able to write an article on the subject, and these brief details may be of interest to Amateurs.

Coils L1-L6 will work if they resonate with the capacity shown; a g.d.o. will fix this. Tune for maximum output.

L7 is a problem. VK3ZRK had one on hand that worked but the filter should roll off at 3 Kc.—values for C25 and C26 were used.

A red insert dynamic microphone was used in conjunction with the equipment.

Power output was 250 mW, at 145 Mc. and can be increased to 500 mW, with selected transistors at higher voltages (changing Q5 to 2N3643 may be necessary).

Ranges of 12 miles with ground plane to mobile, and about 5 miles mobile to mobile have been recorded.

Deviation of 80 Kc. was obtained without any trouble.

The circuit indicates what can be done without sophisticated circuitry or test equipment.

If the oscillator works then the whole thing can be aligned using only an r.f. probe and a sensitive multimeter. The deviation was set "on air".

Apologies that the audio section is not shown on the layout diagram. At the time the drawings were made this was still in breadboard form, all over the bench, but there is enough room if a pot core is used for L7 and the mike preamplifier is external.

—D. M. Bennett, VK3ZRK.

CONVERTING CARPHONS

(Continued from Page 4)

20 Tx to Rx:	Rec. Octal:
Pin 1—LT active.	Vib. tans.
2—LT active.	Vib. reed.
3—Rec. ON relay.	Earth.
4—Audio com.	LT active.
5—Speaker.	+150v. HT.
6—600 ohm out.	Audio com.
7—Earth.	Speaker.
8—+150v. in.	600 ohm out.
9—+150v. out.	
10—Bias.	
11—Mute.	
12—Mute.	
20 Tx to Control:	Tx Octal:
Pin 1—LT active.	Vib. coil.
2—Trans. ON rly.	LT active.
3—Rec. ON rly.	HT return.
4—Audio com.	Bias.
5—Speaker.	PTT relay.
6—600 ohm out.	+300v.
7—Mic.	Earth.
8—PTT relay.	Mic.
9—+150v.	
10—Bias.	
11—Mute.	
12—Mute.	

ACKNOWLEDGMENTS

The author wishes to thank Jim Stewart, VK2AS, for checking the manuscript before publication and making several useful suggestions. Acknowledgment of the help of Bert Smith, VK3AAF, and Ed Manifold, VK3RM, is also made.

FEDERAL COMMENT (Continued from Page 3)

"Once again I thank you for giving me this opportunity to make my humble contribution to this international fraternity and it is my hope that the Radio Amateur movement will progress, expand and prosper as it deserves."

Those comments from the Secretary-General of the I.T.U. made in Geneva at the 1967 I.A.R.C. Convention seem to indicate a favourable attitude to Amateur Radio on his part.

With regard to the International Amateur Radio Club, Roy Stevens, G2BVN, Immediate Past President of R.S.G.B., Vice-Chairman of I.A.R.U. Region I, Executive Committee, who recently attended the I.A.R.C. Convention, comments in a report kindly sent to Federal Secretary W.I.A. as follows:

"... the I.A.R.C. can fulfill a worthwhile function. It provides an entry to the I.T.U. and to the Secretary-General and the members of the C.C.I.R. and the I.F.R.B. Without the annual Convention and the permanent Amateur Station (4UITU Geneva) it would be more difficult to find an opportunity to talk freely with the staff members of the I.T.U. M. Mill has shown himself to be sympathetic to the Amateur movement, and I believe I have established with him a degree of personal friendship which might be of advantage at some future time."

This comment clearly shows up the value of personal contact between Amateurs at international level, and between Amateurs and the I.T.U. Australia was not represented at either of the I.A.R.U. Regional Conferences held recently, or at the I.A.R.C. Convention in Geneva.

NEW CALL SIGNS

JUNE-AUGUST, 1967

VK1AM—L. L. McGarry, 20 Harris St., Blackfriars, 2602.
VK1BR—A. R. Brown, 9 Arkana St., Yarralumla, 2600.
VK1FR—J. B. White, 38 Cox St., Alinalie, 2600.
VK1GS—A. Sangster, 105 A'Beckett St., Watson, 2603.
VK1VE—T. Van Eck, 163 Duffy St., Alinalie, 2600.
VK1ZS—R. J. Swan, 16 Barkly Cres., Forrest, 2603.
VK1AQ—J. R. Tepper, 9 Sullivan Ave., Wagga, 2607.
VK1JQ—School of Applied Electricity, Sydney Technical College, Harris St., Ultimo, 2007.
VK1WJ—L. G. H. T. Robertson, 83 Rosedale Rd., East Gordon, 2072.
VK1WN—J. A. Hampel, 8 Sylvia Pl., French's Forest, 2066.
VK1YX—P. D. Williams, 38 Acland Rd., Southfield, 2122.
VK1BPF—G. C. Fletcher, 19 Brook St., Thornleigh, 2120.
VK1BCK—R. C. Kirkwood, 15 Grant St., Port Macquarie, 2155.
VK1BCU—D. Coleman, Station: Port Hacking Rd., Miranda, 2226, Postal: P.O. Box 19, Kingsford, 2228.
VK1BCY—J. Young, 3 Iredale Ave., Cremorne, 2080.
VK1BKF—C. E. Fredrickson, 14 Hillpine Ave., Kogarah, 2217.
VK1BEL—J. Colyer, 30 Burgoyne St., Gordon, 2072.
VK1BHV—Maitland Y.M.C.A. Radio Club, Station: P.O. Box 94, Maitland, 2320, Postal: P.O. Box 94, Maitland, 2320.
VK1BHQ—J. E. George, 59 Greenlades Cres., Mt. Ousley, Wollongong, 2500.
VK1BPK—Parker and District Amateur Radio Club, 83 Clarendon St., Parkes, 2670.
VK1BPO—C. Smyser, C/o D. Duff, 34 William St., Hornsby, 2077.
VK1BPP—N. L. Pinkerton, 1 Kings Pl., Carlingford, 2118.
VK1BUU—J. E. Vaught, Officers' Mess, R.A.A.F., Richmond, 1765.
VK1BWR—W. R. Lindome, 24 William St., Hornsby, 2077.
VK1ZKH—R. Halpin, 19 Morton St., Waverton, 2060.
VK1ZQJ—J. K. Nutt, 8 Spearman St., Roseville, 2068.
VK1ZJT—J. A. Craikes, 40 Avoca St., Kingsford, 2032.
VK1ZYJ—J. E. Jones, 25 Amara Pde., Roseville, 2069.
VK1ZKK—R. G. Dixon, 17 Lanthams Rd., Model Farm, 2133.
VK1ZKZ—J. K. Riley, 11 Chapman St., Strathfield, 2138.
VK1ZMY—K. A. McGarrity, 289/21 Macquarie St., Sydney, 2000.
VK1ZMZ—J. G. McCloughan, 460 Blaxell St., Guildford, 2161.
VK1ZNK—A. Nikku, Cabramatta Hotel, Cabramatta, 2166.
VK1ZOO—M. W. O'Grady, 216 Ellemere Rd., Guyra, Box 227.
VK1ZPD—P. F. Bell, 99 Station St., West Ryde, 2113.
VK1ZQC—G. V. Cooley, Lot 6, Main Rd., Medvale, 2261.
VK1ZSN—R. Shustritz, 10 Stirling Cres., Lilli Pilli, 2226.
VK1ZST—E. R. Cousins, 34 Piona Rd., Beechcroft, 2119.
VK1ZTW—E. W. Howell, Werombi Rd., Camden, 2570.
VK1ZUP—W. H. Holliday, 3 Kooro Ave., Warragamba, 2076.
VK1ZVN—Maitland Y.M.C.A. Radio Club, Station: 264 High St., Maitland, 2320, Postal: P.O. Box 94, Maitland, 2320.
VK1ZVP—R. H. Little, Station: 53 Clarendon St., Parkes, 2670, Postal: 4 Fisher St., Parkes, 2670.
VK1ZWO—J. H. Howe, 9/3 Dolphin St., Randwick, 2031.
VK1ZWP—W. T. Rice, 60 O'Connor St., Kogarah, 2217.
VK1ZVY—D. S. Fraser, 221 Park Ave., Kotara, 2288.
VK1ZH—L. A. P. Grant, 2 Wellington St., Lower Templestowe, 3107.
VK1ZOT—W. J. Miller, 25 Rivette St., Mordialloc, 3185.
VK1ZOM—M. Thompson, 15 Dover Pl., Parkdale, 3184.
VK1ZPF—S. F. Huggard, 18 Elster Ave., Gertrude, 3183.
VK1ZAT—T. E. Whitfield, 1024 Nepean Hwy., Rye, 2941.
VK1ZAU—R. R. Hooper, 13 Laurens St., Rosebud, 3958.

VK1ZCJ—G. B. Baker, Old Dandenong Rd., Heatherton, 3203.
VK1ZCQ—G. D. Johnson, "Weller Lodge," 169 Canterbury Rd., Canterbury, 3124.
VK1ZDS—S. W. Templeton, "Carriage," Tphara Bridge, 3261.
VK1ZED—K. D. Schuman, 20 Scott Gr., Burwood, 3125.
VK1ZMB—N. W. G. Barker, 458A Kooyong Rd., South Caulfield, 3162.
VK1ZQZ—G. A. D. Thomson, 115 Newdon St., Heidelberg, 3084.
VK1ZUU—V. Kondratiev, 5 Wren St., Altona, 3018.
VK1ZVM—C. Morgan, 23 Walbundry Ave., North Bahrny, 3104.
VK1ZVU—Z. Svalbe, 45 Surrey Rd., Mt. Waverley, 3125.
VK1ZWC—T. J. Conboy, 38 Laurence St., Middle Brighton, 3186.
VK1ZWW—J. Hubrighton, Jnr., 74 Maddox Rd., Newport, 3015.
VK1ZVZ—R. K. Whaley, 3 Dwyer St., Blackburn, 3120.
VK1ZXX—P. A. Stroud, Lot 38, Shelly Ave., Rayswater, 3153.
VK1ZYH—L. N. Hocking, 7 Moonan St., Benalla, 3672.
VK1ZYT—S. J. Taylor, 10 Simpsons Rd., Box Hill, 3121.
VK1ZYM—P. M. Mion, 114 Eadale St., Nunawad, 2220.
VK1GI—G. A. Bonney, 19 Greatheds Rd., Bundaberg, 4670.
VK1GU—J. G. Karsberg, 39 McDowall St., Toowoomba, 4328.
VK1HG—J. M. Hamilton, Station: Willis Island, Postal: 37 Byfield St., Reservoir, Vic., 3073.
VK1IH—R. M. Mullins, 45 MacLennan St., Cairns, 4870.
VK1KF—W. D. Macaulay, 25 Parkmore St., Boondall, 4034.
VK1KY—G. A. Avery, Officers' Mess, R.A.A.F. Base, Amberley, 4365.
VK1OP—R. K. Pietrala, Sansonvale Rd., Strathfield, 4800.
VK1ZCE—C. E. Meredith, King's College, Upson Rd., St. Lucia, 4067.
VK1ZCO—L. R. Cook, 14 Jellicoe St., Coorparoo, 4151.
VK1ZCD—C. D. Hunter, 94 Prince St., Annerville, 4103.
VK1ZGS—G. C. Squeelch, 10 Row St., Ingham, 4850.
VK1ZHV—H. V. Hunt, Flat 2, 371 Coronation Dr., Ashford, 4000.
VK1DN—R. A. Daniella, 23 Jarvis Ave., Magill, 5072.
VK1IE—T. H. Baker, 26 Wilkins St., Glenorie, 504.
VK1UW—R. F. Daniels, 1 Ridgecrest Ave., Darlington, 5047.
VK1KV—V. F. Kemper, Emmetts Rd., Crafer, 5123.
VK1WU—N. J. Worthington, Lot 198, Doradus Ave., Hope Valley, 5090.
VK1XC—G. M. Arthur, 40 Main St., Peterborough, 5422.

VK1XW—G. P. Shields, Warland Ave., Victor Harbour, 3211.
VK1ZBI—R. L. Mayfield, 25 Astrid Ave., Warfale, 5068.
VK1ZBQ—R. D. Williams, 31 Chatsworth Gr., Toorak Gardens, 5085.
VK1ZBJ—O. A. Isaacson, 79 Arthur St., Unsworth, 5005.
VK1ZFI—J. R. Birrell, 5 Franklin Tce., Mt. Gambier, 3280.
VK1ZKJ—K. D. J. Frendgast, 34 Manning Rd., Elizabeth South, 5112.
VK1ZSV—V. L. Schwingner, 68 Hinkes Ave., Wyalla, 5050.
VK1ZWV—R. J. Widdash, 22 Baker St., Glengowrie, 5044.
VK1ZWW—W. A. Watkins, Station: 45 Edward St., Norwood, 5087, Postal: C/o Pept. of Interior, Box 3362, G.P.O., Adelaide, 5001.
VK1AD—A. W. Stewart, 3 Palm St., Sunbury, 6250.
VK1CZ—R. M. Poller, 15 Tautog St., Exmouth, 6707.
VK1PA—K. C. Parker, 83 Broadway, Bassendean, 6105.
VK1ZCE—C. Morey, 3 Redcliffe Rd., Redcliffe, 6104.
VK1ZBH—H. G. Buckley, 388 Fitzgerald St., North Perth, 6008.
VK1HE—H. E. Hewans, 175 Charles St., Launceston, 7820.
VK1WTF—W. J. Emmett, Station: 134 Wilson St., Burnie, 7820, Postal: 8 Harg St., Lenah Valley, 7005.
VK1ZAE—A. R. Everts, 88 Goulburn St., West Hobart, 7005.
VK1ZCW—C. D. Walker, 122 Granville St., Launceston, 7820.
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VK1GT—C. C. Talbert, Batchelor, N.T., 5791.
VK1GU—Gove Social Club, Eldo Tracking Station, Gove, C/o P.M.B. Darwin, N.T., 5794.
VK1ZSG—H. N. O. Broadbent, Feko Mines, Tennant Creek, N.T., 5750.
VK1AA—E. R. Metzger, Station: Porriable, Postal: Gafama, P.O. Gorka, T.P.N.G.
VK1BK—B. M. Kiddle, Station: No. 23, First St., Lae, T.P.N.G., Postal: C/o Posts and Telegraphs, P.O. Box 299, Lae, T.P.N.G.
VK1WS—W. Bowles, Station: S.I.L., Ukerumpa, E.H.D., T.P.N.G., Postal: S.I.L., P.O. Ukerumpa, E.H.D., T.P.N.G.
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JOHN MOYLE MEMORIAL NATIONAL FIELD DAY CONTEST, 1968

SATURDAY, 3rd FEBRUARY, 1968, TO SUNDAY, 4th FEBRUARY, 1968

The Federal Contest Committee of the Wireless Institute of Australia invites all Australian Amateur and Short Wave Listeners to participate in this Annual Contest, which is held to perpetuate the memory of John Moyle, whose efforts advanced the Amateur Radio Service.

There are two divisions of this Contest, one of 24 hours continuous duration, and one of 6 hours continuous duration. The six-hour period has been included to encourage the operator who is unable to participate for the full 24-hour period.

Operators using 25 watts or less input to the final stage will be considered for a certificate where his activity warrants its issue.

DATE

From 0800 GMT, 3rd February, 1968, to 0800 GMT, 4th February, 1968.

OBJECTS

The operators of Portable and Mobile Stations within all VK Call Areas will endeavour to contact other Portable/Mobile and Fixed Stations in Australia and Overseas Call Areas.

RULES

1. There are two divisions, one of six (6) hours, and one of twenty-four (24) hours duration. The six-hour period for operating may be chosen from any time during the Contest, but the six-hour period so chosen must be continuous. In each division, there are six sections:—

- (a) Portable/Mobile Transmitting, Phone.
- (b) Portable/Mobile Transmitting, C.W.
- (c) Portable/Mobile Transmitting, Open.
- (d) Portable/Mobile Transmitting, Multiple Operation, open only.
- (e) Fixed Transmitting Stations working Portable/Mobile Stations, open only.
- (f) Reception of Portable/Mobile Stations.

2. All Australian Amateurs are encouraged to take part. Operators will be limited to their licensed power. This power shall be derived from a self-contained and fully portable source.

(a) Portable/Mobile Stations shall not be situated in any occupied dwelling or building. Portable/Mobile Stations may be moved from place to place during the Contest.

No apparatus shall be set up on the site earlier than 24 hours prior to the Contest.

All Amateur bands may be used, but no cross band operating is permitted. Cross mode operation is permitted.

Entrants in Section (d) for Multiple Operator Stations can set up separate transmitters to work on different bands at the same time. All such units of a Multiple Operator Station must be located within an area that can be encompassed by a circle not greater than half a mile diameter.

For each transmitter of a Multiple Operator Station a separate log shall be kept with serial numbers starting from 001, and increasing by one for each successive contact. All logs of a Multiple Operator Station shall be submitted by the operator under whose Call Sign the transmitters are working. No two transmitters of a Multiple Operator Station are permitted to operate on the same band at any time.

3. Amateurs may enter for any section.

4. One contact per station for phone to phone, also one for c.w. to c.w. per band is permitted. Cross mode operation will be accepted for scoring.

5. Entrants must operate within the terms of their licences and in particular observe the regulations with regards to portable operation.

6. Serial numbers consisting of RS or RST report plus three figures commencing with 001 and increasing by one for each successive contact shall be exchanged.

7. Scoring—

(a) Portable/Mobile Stations:

For contacts with Portable/Mobile Stations outside entrant's Call Area 15 points

For contacts with Portable/Mobile Stations within entrant's Call Area 10 points

For contacts with Fixed Stations outside the entrant's Call Area 5 points

For contacts with Fixed Stations within the entrant's Call Area 2 points

(b) Fixed Stations:

For contacts with Portable/Mobile Stations outside entrant's Call Area 15 points

For contacts with Portable/Mobile Stations within entrant's Call Area 10 points

8. The following shall constitute Call Areas: VK1, VK2, VK3, VK4, VK5, VK6, VK7, VK8, VK9 and VK0.

9. All logs shall be set out under the following headings: Date/Time (G.M.T.), Band, Emission, Call Sign, RST/No. Sent, RST/No. Received, Points Claimed. Contacts must be listed in numerical order.

In addition, there shall be a front sheet showing the following information:—

Name Address
Call Sign Section
Division (6-hour or 24-hour)
Points Claimed
Call Sign of other op/s (if any)
Location of Portable/Mobile Station
From hours to hours

A brief description of equipment used, and points claimed, followed by the declaration:

"I hereby certify that I have operated in accordance with the rules and spirit of the Contest."

Signed Date

10. The right is reserved to disqualify any entrant who, during the Contest, has not observed the Regulations and the Rules of this Contest, or who has consistently departed from the accepted code of operating ethics.

11. The decision of the Federal Contest Manager of the Wireless Institute of Australia is final and no disputes will be entered into.

12. Certificates will be awarded to the highest scorer of each section of each division. Additional certificates may be issued at the discretion of the F.C.C. The six-hour certificates cannot be won by a 24-hour entrant.

13. Return of Logs:

All entries must be postmarked not later than 29th February, 1968, and be clearly marked "John Moyle Memorial National Field Day Contest, 1968," and addressed to:—

Federal Contest Manager, W.I.A.,
Box N1002, G.P.O., Perth, 6001,
Western Australia.

RECEIVING SECTION

14. This section is open to all Short Wave Listeners in VK Call Areas. The Rules shall be the same as for the Transmitting Stations, but may omit the serial numbers received.

Logs must show the Call Sign of the Station heard, the serial number sent by it, and the Call Sign of the Station being worked.

Scoring will be on the same basis as for Transmitting Stations. It will not be sufficient to log a station calling CQ. A station may be logged once only for phone and once for c.w. in each band.

Awards: Certificates will be awarded for the highest scorer in each Call Area.



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9" x 9"	\$3.63

Plus S.T. 12½%.

Plus Pack and Post 3c per board.

ALSO PLAIN COPPER BACKED BOARD

Size: 6" x 3"	20c
6" x 6"	36c
12" x 3"	36c
9" x 6"	48c
12" x 12"	\$1.24

Plus S.T. 12½%.

Plus Pack and Post 5c per board.

PROCESS KIT

Contains: Ferric Chloride, Bituminous Paint, Resin, and Instructions.

68c plus S.T. 12½%.

Plus Pack and Post 10c.

SPEAKER TRANSFORMERS

E TYPE, 5,000 or 7,000 ohms to 3.5 ohms, or 15 ohms.

\$1 plus S.T. 25%.

Pack and Post 15c.

PANEL METERS

Moving Iron AC/DC Meters. 1½" square. Ranges available:—

0-10, 0-20, 0-30, 0-40, 0-50 volts.

0-1, 0-5, 0-10, 0-20 amperes.

\$3.50 each. Post free.

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- P.M.G. APPROVED
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- SQUELCH CIRCUIT

\$60.00

Plus S.T. 12½%, plus freight 50c

IMPORTED ROSENTHAL HIGH STABILITY RESISTORS

1 WATT RATING

★ 15 ohms to 8.2 megohms ±1%.

★ 11 megohms to 30 megohms ±2%.

18c each plus S.T. 12½%.

Write or call for list of sizes available.

807 VALVES

AMERICAN SYLVANIA

\$1.75 each or
\$18.00 dozen

Including Tax and Postage.

AUDIO AMPLIFIER MODULES

Four-Transistor: 1 watt output.
High Impedance input: 100K ohms.
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Output Impedance: 4, 8 or 16 ohms.
Power source: 6 volts.
Gain: 70 db.
Size of board: 4½" x 2" approx.
Supplied with circuit and wiring instructions.

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• For supplying 9 or 12 volts DC at 500 mA. Comprising A & R Transformer, Contact Cooled Rectifier, and 1000/15 Filter Capacitor.

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• To give 250 volts DC at 80 mA. and 6.3 volts AC at 2 amperes. Comprising A & R Transformer, Contact Cooled Rectifier, 50 plus 50/350 Filter Capacitor.

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WORKED FROM ALL VIC. NATIONAL PARKS AWARD

AND

WORKED ALL VIC. NATIONAL PARKS AWARD

In order to stimulate activity, and to have awards available for those whose interest is mainly centred round the 160, 80 and 40 metre bands, the Victorian Division of the W.I.A. has inaugurated these awards, to be effective as from the 1st December, 1967.

Although primarily to stimulate low frequency activity, any Amateur band may be used, as may any authorized mode. The rules, which are set out below, have been kept simple, but it is suggested that operators from any of the Parks be careful to show on their cards the location from which they operate.

The twenty National Parks in Victoria are listed below:

1. **Alfred**—On Princes Highway, 300 miles East of Melbourne.
2. **Balga**—On Grand Ridge Road, South Gippsland.
3. **Churchill**—On Scoresby-Rowville Road, between Dandenong and Ferntree Gully.
4. **Ferntree Gully**—22 miles East of Melbourne beyond Upper Ferntree Gully.
5. **Fraser**—On the Western shore of Lake Ellidon.
6. **Glenaladale**—18 miles North of Princes Highway at Fernbank, 180 miles East of Melbourne.
7. **Hatfield Lakes**—22 miles North of Ouyen.
8. **Kingslake**—40 miles North of Melbourne.
9. **The Lakes** (Spermwhale Head)—200 miles East of Melbourne. Access by road from Sale or by boat from Gippsland Lakes.
10. **Ind**—On Princes Highway, between Orbst and Cann River.
11. **Mallacoota Inlet**—340 miles East of Melbourne, near N.S.W. border.
12. **Morwell**—100 miles East of Melbourne, near Jumbuck Road.
13. **Mount Buffalo**—200 miles North-East of Melbourne.
14. **Mount Eccles**—200 miles West of Melbourne.
15. **Mount Richmond**—20 miles West of Portland.
16. **Port Campbell**—On Great Ocean Road, 150 miles West of Melbourne.
17. **Tarra Valley**—On Tarra Valley Road, 20 miles from Yarram.
18. **Wilson's Promontory**—150 miles South-East of Melbourne.
19. **Wingra**—123 miles South of Princes Highway at a point about 310 miles East of Melbourne.
20. **Wyperfeld**—287 miles North-West of Melbourne and 30 miles North of Rainbow.

The awards are available without cost to any licensed Amateur who fulfils the requirements of the rules.

To maintain interest, participants are invited to advise the Victorian Divisional Secretary of their progressive scores for publication in "Amateur Radio".

To assist in the inauguration, Zone Secretaries and any other interested parties are requested to make an effort

to get operators into National Parks on Sunday, 9th December. If there proves to be sufficient interest, the Victorian Division will consider a **Worked All Parks From All Parks Award**.

WORKED FROM ALL VICTORIAN NATIONAL PARKS AWARD

Object This award has been created to stimulate portable and mobile activity on the lower frequencies, to assist participants in the W.A.V.N.P. award, and to give successful operators some tangible evidence of their achievements.

The award to be known as the W.F.A.V.N.P. award will be issued to any Amateur who satisfies the conditions hereunder.

Requirements: Two-way contacts must be made while operating either portable or mobile from Victoria's National Parks.

Applicants may use any Amateur frequency and any authorized mode. Contacts through relay or repeater stations will not be accepted.

Awards: To qualify for an award, contacts must be made from at least 15 of the 20 National Parks in Victoria.

Awards will be endorsed for Parks over and above the minimum required.

Verifications: The Secretary of the Victorian Division may use his discretion whether or not QSL cards are to be submitted, but in general a declaration, signed by the applicant, that he has operated in accordance with the spirit and rules of the award, and listing the Parks from which he operated and the dates and times of such operation, will be accepted as sufficient evidence that the operations have taken place.

Applicants must be made in writing to the Secretary, Victorian Division, Wireless Institute of Australia, and accompanied by the declaration mentioned.

The Victorian Division reserves the right to vary the minimum requirements in the event that the number of National Parks be altered.

In all cases of dispute, the decision of the Victorian Secretary and any two members of the Victorian Divisional Council shall be final and binding.

No charge will be made for this award.

WORKED ALL VICTORIAN NATIONAL PARKS AWARD

Object: This award has been created in order to stimulate activity on the lower frequencies, to increase appreciation of Victoria's scenic attractions and to give successful operators some tangible evidence of their achievements.

This award, to be known as the W.A.V.N.P. award will be issued to any Amateur who satisfies the conditions hereunder.

Requirements: Contacts must be made with Amateur Stations operating either portable or mobile in Victoria's National Parks.

Applicants may operate portable, mobile or home station, on any Amateur frequency and use any authorized mode. Contacts through relay or repeater stations will not be accepted.

Awards: To qualify for an award, contacts with at least 15 of the 20 National Parks must be made.

Awards will be endorsed for meritorious achievements, i.e. working all parks on one band. Additional endorsements will be awarded for each band on which all Parks are worked, as well as for Parks over and above the minimum requirement of 15.

Verifications: The Secretary of the Victorian Division may use his discretion whether or not QSL cards are to be submitted, but in general a declaration, signed by the two Amateur operators, stating they have sighted the confirmation will be accepted as sufficient evidence that the contacts have been made.

Applicants must be made in writing to the Secretary, Victorian Division, Wireless Institute of Australia, and accompanied by the declaration mentioned.

The Victorian Division reserves the right to vary the minimum requirements in the event that the number of National Parks be altered.

In all cases of dispute, the decision of the Victorian Divisional Secretary and any two members of the Victorian Divisional Council shall be final and binding.

No charge will be made for this award.

A.R.R.L. TECH. MERIT AWARD

At the Victorian Division's Annual Dinner, held during the first week in November, a very great honour was paid to a Victorian Amateur Radio Operator, in that the Federal President of W.I.A., Max Hull, VK3ZS, on behalf of A.R.R.L., conferred the A.R.R.L. Technical Merit Award for this year of Ray Naughton, VK3ATN.

Max introduced Ray to the Senior P.M.G. Official present at the Dinner (Mr. E. J. Wilkinson, Acting Assistant Director General Radio) and spoke highly of the past and present efforts of Amateurs in pushing back the frontiers of technological and scientific advancement. A handsome plaque inscribed "A.R.R.L. Technical Merit Award presented to Bill Conkel, WEDNG, and Ray Naughton, VK3ATN, for advancing the frontiers of Amateur Radio by proving communication via lunar reflection to be within the realm of conventional Amateur operation" was presented to Ray by Mr. Wilkinson.

In presenting this plaque, Mr. Wilkinson referred to the interest in Amateur experimentation taken by his Department, and also to the assistance which could be given to Ray in his future moonbounce activities. He read a letter from A.R.R.L. which was addressed to VK3ATN from WILVQ, General Manager of A.R.R.L., which stated:

"The A.R.R.L. Technical Merit Award was created by our Board of Directors to be presented to Amateurs chosen for outstanding technical contributions to Amateur Radio. This year's Board voted to present the award to you, VK3ATN, and Bill Conkel, WIDNG, for your outstanding moonbounce efforts. This is the first time the Board has made this award to an Amateur from a country other than the U.S. We want you to know that your work is appreciated by Amateurs in the U.S."

"Congratulations from Headquarters of A.R.R.L. We wish you well in your continuing efforts."

In reply to the Federal President and Mr. Wilkinson, Ray thanked the W.I.A. for the invitation to be a guest at VK3 Division's Annual Dinner, and thanked Federal Executive for arranging the presentation on behalf of A.R.R.L. He referred to the technical aspect of this moonbounce achievement and to the immense amount of time and effort necessary for its accomplishment. Photographs and slides of Ray's set-up at Birchip were viewed later in the proceedings and an appreciation of the complex "tracking" devices was gained.

During this presentation and other formal parts of the Dinner, reference was made to the fine spirit of co-operation and liaison which existed between the State Administration of the Department and the VK3 Division, and between the W.I.A. Federal Executive and the Central Office, P.M.G.

All concerned agreed that this moonbounce effort was yet another fine example of Amateur Radio achievement and the W.I.A. joined with the P.M.G. Department in congratulating VK3ATN on being the joint recipient of one of Amateur Radio's most highly prized awards.



Sub-Editor ALAN SHAWSMITH, VK6BS
35 Wynnot St., West End, Brisbane, Qld., 4101

Predicted sunspot number for December is 90. The future trend will be interesting. Conditions are good as of now. Are we near the top in the best way to connect? How long will ten mx hold up? This latter band is open at this QTH daily from 2200z to 1000z. Mostly W and Z prefixes, but the European power around 5000, 15 mx is good to Europe from 1000z, often till 1600z. The usually good early night path (SR) to Europe on 50 mx seems loath to put in an appearance, but this band does improve to the NW from 1500z onwards when the signals are at 80/9 strength.

NOTES AND NEWS

Pitcairn Is.: Ron WIDWIG/V86 passes on the info that he will look for the VK boys on 14190 and 21300. QSL KX7E.

Mainland China: Reported active working lots of Ws is BY5PC, 21235 1300z. Says QSL is Fekling and QSL to VO3L3. (I wonder if...)

Sao Tomé: CR5SP 14195 0000z, 20630 1000z. QSL W06XK.

Barcey: Q14QZ QRV all bands daily. QTH, Flat 1, 4 Clearedon Rd., St. Helier. Also active daily G8CST. All bands and modes.

Easter Is.: CB5AE 14255 2500 and 2800z. QSL Ham Shack, P.O. Box 37, A.P.O., N.Y., 06230.

Thailand: HB1HC 14100 1530z. QSL to HS Bureau.

Hong Kong: V88P active 21030 1000z and 2030 1100z. He says will QRT in January and commence operation from Zambia with call ZB1W. V88P and V88PZ also sometimes on 10 and 15 mx etc.

Curaco: PJ3CR 14175 0500z. QSL, P.O. Box 208.

Frans Joost Land: UA1KED 14009 1500z. Many seem to be seeking this one. Keep listening. It is quite often.

Swan Is.: K5ACF QRV 14100 0300z, 20000 1000z. Also worked here on 31 and 38 mx c.w. QSL. Box 463, Miami, FL, 33157.

Key West: K5ACF 14100 0300z. Also 45TNE and one or two other active on 14 c.w./s.s. QSL.

Saint Vincent: PJ3MI 26500 1400z. QSL VE9EUU. Station VPM14 14100 0300z. QSL W06XK.

Aldabra: VQ3VW active on 14000 and 16000z. 7005, 16030, 21000, 28000, 28080, 21460. Various times from 1600z. Also listen on 150 and 80.

Tiger: 21415 16105 2500z. QSL W4 L. Leper, 238 Suntan Ave., Sarasota, FL, 35577.

Wrange Is.: UA0KIP 14029 1835. No other information.

Sandwich Is.: LU221 14000 0100z.

Botswana: Z8BQ 14047 1815. P.O. Box 44, Francistown.

St. Helena Is.: VP7JZ 14190 2300z.

Swaziland: ZD8X 14030 1300z.

St. Helena: ZD7TF 14138 0000z. QSL W06XK.

Tunisia: 3V8E2 is active again, 14185. QSL DL7P.

Senegal Rep: 6WABE 14200 2200z.

Mali: HH9UL 14288 0400z.

Madagascar: F73TF 14070 1300z.

Fr. Somali: FL2PJ 21244 2000z.

Sudan: ST53A 14091 2000z. P.O. Box 234, P. Sudan, (W747) pending to ST5AR1.

Gibraltar: ZB3BS 14100 0300z. QSL W4 ZBBA.

Tromelin Is.: F73TZ/T 14025 1500z.

Glorioso: FR1ZQ/O 14228 and 14090 1100z.

Father: VJ5VJ 14035 1700. 14170 0530. P.O. Box 9045, Rome.

Togo: 5V1ZQ QRV 14180 and 21250 1800-1800. More activity than has coming up.

Calcutta: H3C3Q 14172 0000z.

Day Is.: HB1R2 14205 2300z.

Marion Is.: Z33MI 14230 1700. Uses a.m. phone and also 45TNE.

Christmas Is.: VK4IR 18900 0500z. Use other bands - VK4IR can supply further info.

Guernsey G8CST daily active using all bands and modes. Also 45TNE and 45TNE.

Mexico Oaxaca City: X060PC. An Archaeology Expedition, 14 s.b. 0030 and later. QSL KX7E.

Rio de Oro: E8ABQ 28500 1600, 21630 also 1800, 14168 0120. E8ABE 14125 1830.

Svalbard: J7WSYG 14029 2300z.

San Marino: X060PC 14100 0700, 14090 2100.

Gordon: W8IDB has written seeking assistance. He is particularly anxious to work VKs especially at night every morning at 6 a.m. Eastern Daylight Saving Time (U.S.) and listens between 14200 and 14230, but he can work any band from 10 to 80 mx, call is s.b. If you hear him, please give him a call.

ACTIVITIES

Peter VK6PJ is a busy family man but usually finds time to spare his share of DX. He reports working the following: 10 mx s.s. - 4X4CJ, HC5CQ, OR1KW, UP8ACR, 1X1NA, 7AH, HB4AKJ, KP0HJ, ONKRY, V8SWZ, UB-CKX, ZC4CH, F73TF, V88PZ, TX0AZ, VJ-14H, VY5ANE, HP1UC, UP8ACI, V8SWZ plus several VE's and many other Europeans. 15 mx - VY5CM, SM4ON, OHBZC, F73AILK, W06TA/LA, SM4ONK, ONKRY, U4SKBQ, F73-EP2Q, ZC4CH, OZ5KQ and Europeans. 20 mx - UR1KAW, F73MA, HB8ARM, OK1FY, T8-APZ, ZK1L, F73V, V88PZ, V88AS, VJ-14H, VY5ANE, HP1UC, UP8ACI, V8SWZ plus several VE's and many other Europeans. 30 mx - VY5CM, SM4ON, OHBZC, F73AILK, W06TA/LA, SM4ONK, ONKRY, U4SKBQ, F73-EP2Q, ZC4CH, OZ5KQ and Europeans. 20 mx - UR1KAW, F73MA, HB8ARM, OK1FY, T8-APZ, ZK1L, F73V, V88PZ, V88AS, VJ-14H, VY5ANE, HP1UC, UP8ACI, V8SWZ plus several VE's and many other Europeans. 30 mx - VY5CM, SM4ON, OHBZC, F73AILK, W06TA/LA, SM4ONK, ONKRY, U4SKBQ, F73-EP2Q, ZC4CH, OZ5KQ and Europeans. 20 mx - UR1KAW, F73MA, HB8ARM, OK1FY, T8-APZ, ZK1L, F73V, V88PZ, V88AS, VJ-14H, VY5ANE, HP1UC, UP8ACI, V8SWZ plus several VE's and many other Europeans. 30 mx - 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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

FL3900 LINEAR AMPLIFIER

The following letter has been received from the P.M.G. Department, Radio Branch.—

Dear Sir,

Further to recent correspondence from this Department concerning equipment for the Amateur Service, would you please note that the operation of the Yasu Museum FL3900 linear amplifier will be accepted as meeting power output requirements for single sideband emissions when such equipment is operated with the high tension power transformer employing the 460 volt secondary tapping.

Yours faithfully,

C. Carroll.

For Director-General.

REGION III. AND SOUTH-EAST AREA

At the Robert Convention a 24-hour debate was adjourned "Bine Die" (to another day). This debate will no doubt be resumed at the 1968 Convention in Sydney, and will concern the policy that the W.I.A. should adopt towards Region III. and the I.A.R.U.

As a lead-up to that, Federal Executive was asked to prepare some suggestions for a policy to be adopted and has been doing so and circulated to Divisions as a suggested basis for W.I.A. policy towards Region III. and South-East Area. It is not meant to be complete, or final, but meant as a starting point. Please consider this problem and suggest any extensions or changes, any acceptance of the policy, or your Divisional Federal Councillor, or to Executive.

Presamble:

Executive has examined the matter of I.A.R.U. organisation on a regional basis and is of the opinion that at this time the resources of the Region would not support the sophisticated organisations which exist in Region I. and II. We note with interest the holding of a Region I. triennial conference in Opatia, Yugoslavia; at the meeting of the Region II. I.A.R.U. Executive Committee in Salvador. Such methods of liaison and administration of the I.A.R.U. in Region III. may be eventually swayed in favour of the economically advanced countries, and an easing of currency restrictions by less developed countries.

Nevertheless, it is the opinion of Executive that greater liaison between I.A.R.U. countries in Region III. must occur, and that countries without I.A.R.U. member societies should be encouraged to develop an Amateur Radio Service, and seek admission to I.A.R.U.

Accordingly, the more developed countries in the Region II. should undertake the organisation of liaison and development activities in the Region, in conjunction with I.A.R.U. Headquarters, and the Region I. and Region II. administrations.

Proposals:

1. The W.I.A. is the logical unit for the implementation of any I.A.R.U. activities in Region III.

2. This assistance, either financial or by a more practical expression, be sought from the NZART and J.A.R.L.

3. In the event that either of these two societies is unable to make any contribution, the W.I.A. in conjunction with I.A.R.U. HQ, follows through this policy.

4. The W.I.A. assistance to South-East Asian countries to be the Youth Radio Club Scheme courses.

5. In order to establish initial liaison with I.A.R.U. member societies in the Region, a number of Y.R.C.S. courses be offered to assist the development of Amateur Radio in those countries which are I.A.R.U. members.

6. These I.A.R.U. member countries be encouraged to adopt a neighbouring country—in which no I.A.R.U. society exists—and to assist that country to develop an Amateur Radio Service.

7. In accordance with this policy, Australia adopt Indonesia and attempt to establish an Amateur Radio Service in that country, providing R.C.C. courses and advice in a concentrated fashion. It would be hoped that other I.A.R.U. societies could follow this example, the W.I.A. providing Y.R.C.S. courses to any I.A.R.U. member society who can place them in a neighbouring country.

8. W.I.A. Federal Liaison Officer and a member of Federal Executive visit the recipient country as needs determine and finances permit.

9. That prior to any I.T.U. conference of a Regional nature, which may concern Amateur frequency allocations, I.A.R.U. societies in Region III. liaise and determine a common policy to be adopted.

10. Headquarters of I.A.R.U. and other interested societies be requested to send a senior officer to Sydney Convention in 1968 (Eastern) to assist W.I.A. Federal Council in formulating the eventual W.I.A. official policy on these matters.

FEDERAL QSL BUREAU

The following accompanies all QSLs sent out by VK3AOK: "During the course of our lifetime, we keep and preserve documents which remind and show us that in such a year we were born, vaccinated, married, promoted, applauded, received honours and finally retired from active life. This is of great value to us. The QSL card, which the Amateur finds in his mail box or under the door, is the document of a meritorious contact. It is proof that it was fulfilled. Without the QSL cards, there would not be DXCC, WAS, WAZ, or Diplomas of any species. The reward for valuable work would never be a reality. The active and hard working Amateur who keeps his equipment up to date and receives laudation, international contacts is always awaiting the confirmative QSL. The QSL card makes me happy. Will you please co-operate by sending me the year card of your contact. Your card will likewise be rewarded for your courtesy and consideration."

The Philippine Amateur Radio Association (P.A.R.A.), which is the direct successor to the Philippine Radio Club, founded in 1934 by Col. H. Roberts, KA1HR, well known to old DXers, is celebrating its 34th anniversary in November. A variety of celebrations are planned.

Further news from Tubby Vale, VK3NO, at Gona, N.T., reveals he has just returned from a trip south to view his first grandchild. Timely, the progeny of Jeff VK3EP. Jeff is living at the home of his daughter, and the VK3NO/ZP shack is used only to hang out nappies on wet days.

The Contest notification was received too late for inclusion in "A.R." for November. The phone section was held on Nov. 18 and 19. The c.w. section is scheduled for 9000, Saturday, Dec. 8, to 9000, Sunday, Dec. 9. Logs go to Contest Committee, P.O. Box 907, Colombo, Ceylon. Details of rules and awards are available from this Division.

At last the J.A.R.L. have got the message on the new VK QSL Bureau set-up. It now only remains to whip the B.A.R.W. and the A.R.I. into line, and all major bureaux will be covered. Calls fell to 4,500 during October. This Bureau extends its best wishes for Xmas and the coming year to all Amateurs and particularly to the outgoing and inward managers of the Divisional Bureaux.

Ray Jones, VK3BJ, Manager.

NEW SOUTH WALES

COUNCIL NEWS

Council activities have for the most part been confined to the work of the Division. The employment of a Secretary has meant that work in this field which has been unable to be performed due to limited time and facilities

SILENT KEYS

It is with deep regret that we record the passing of the following Amateurs:

VK2BCR (ex VK3CR)---

J. K. (Ken) Ridgway.

VK3CW—Ewen Cameron

VK6DR—Bill Wedemeyer.

can now be completed. It is hoped that soon the result of this work will manifest itself in this and future Councils far easier than that of the past.

Mr. J. H. Councillor has been appointed to bring the Council up to full strength. Although well occupied during the past year, Council will have a busier than usual start in the new year.

Following on the Divisional Convention will be the Federal Convention which will be held in Sydney this time.

The President, Keith Finney, and Councillors wish to extend Christmas Greetings to all members for the forthcoming season, and would like to take this opportunity of thanking all those people for their help and courtesy during the past year and hope in some way that Council's efforts will be more than repaid. Councillors are, after all, only fellow members giving up much spare time in an effort to help Amateurs and their hobby.

OCTOBER GENERAL MEETING

The October general meeting was held at Wireless Institute Centre on Friday, 25th Oct., at 8.00 p.m. The attendance was 12. The meeting heard a lecture to be given by Maurice Brown, VK3OR, of Mullard Ltd.

The meeting was opened by President-Chairman, Keith Finney, VK3EF, and followed the usual format of reading of minutes, etc. During the formal part of the meeting an additional 12 members were accepted and welcomed to the membership ranks. While membership is on the increase the rate of obtaining new members is still far too slow to achieve the large numbers of members to realise a bigger and better Institute.

The lecture by Maurice was more of an insight into new present and future developments in the use of electronics in industry. Maurice had some very interesting samples to illustrate the use of electronics as well as many slides on various topics. Maurice also showed some of the new devices and was restricted by insufficient time to give too many details.

On display was a 5 h.p. petrol engine which had an electronic ignition system. The system used a piezo-electric device which when flexed mechanically by the timing cam generated a spark as well as many slides on various topics. Maurice also showed some of the new devices and was restricted by insufficient time to give too many details. On display was a 5 h.p. petrol engine which had an electronic ignition system. The system used a piezo-electric device which when flexed mechanically by the timing cam generated a spark as well as many slides on various topics. Maurice also showed some of the new devices and was restricted by insufficient time to give too many details. On display was a 5 h.p. petrol engine which had an electronic ignition system. The system used a piezo-electric device which when flexed mechanically by the timing cam generated a spark as well as many slides on various topics. Maurice also showed some of the new devices and was restricted by insufficient time to give too many details.

While speaking on cars, Maurice went on to say that the new U.S. made V.W. would have electronic fuel injection controlled from the engine in order to ensure complete combustion without pollution.

Because of air pollution by combustion engines it was now certain that electric traction was for the future. At this point, Maurice showed some of the efficiency of cars and batteries under various speed and operating conditions. Taking a power source of 100 W, weight the lead-acid battery could give 8 kWh, the newly developed zinc air cells 4 kWh as opposed to the petrol engines' 120 kWh. In terms of power performance, the power sources had a place at present and development of new systems of traction were needed to use the limited power available for use.

In this area, G.M. have developed a traction system using thyristors to vary the frequency of supply to synchronous motors by passing the series d.c. motor and its wasteful starting system. The Japanese Toshiba Co. has developed an experimental d.c. motor without commutator by using Hall effect devices to control thyristors (SCR's).

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The point being made by Maurice was that electronics are making tremendous advances in all engineered devices and that these advances in electronic technology will help the Amateur in many ways.

Maurice demonstrated some semiconductor products and spoke about the development of silicon diodes, transistors, and thyristors. He was put in that if a diode such as OA210 is connected across the coil of an electric petrol pump primary, the diode will prevent the contacts in these pumps will outlast the life of the car! Maurice said that the automotive manufacturers should include this item in the bill of materials but said they probably didn't know about the idea. However the use of silicon diodes with alternators in cars has resulted in cheap high current diodes for Amateur use.

Continuing, Maurice went on to Integrated Circuits and said that the transition to these devices was more dramatic than the advent of transistors and the introduction of these devices would mean that the electronics man of today must think in this new language and not in the language of valves which have just been left behind. The fact being that electronics is entering a new complex and exciting future.

This lecture proved very interesting to all present and difficult to describe in a few lines. The vote of thanks was moved by Dave ZB8J, who thanked the speaker for this interesting evening and suitable declaration by applause was heard.

The meeting was closed at the end of the lecture at 10 p.m. when supper was served and the members of the Society were given samples to ask many more questions and look at the goodies which contained, among the many items, a very locally made and authorised turret tuner for television sets of local manufacture.

The general meeting this month will not have the usual lecture but will instead be a film evening. The feature film will be about television and is reputed to be a popular and very well produced item. Harold Burroft assured me that the film will be of good quality, being much better than last year's lot, employing such things as sound and pictures at least as good as those in other films.

Harold has suggested that next year one meeting be given over to an exhibition of home-brew fear to be briefly described by the builder. If you would like to be in it and have suitable gadget to display and describe, would you contact him.

W.I.C.N.

The W.I.C.N. group of the N.S.W. Division held a 34-hour exercise on 20th and 21st last in conjunction with the Colo Shire Civil Defence Committee. The exercise was held at the Windsor-Kurrajong area, with the control station being at the Wilberforce Council Chambers and mobile stations placed at strategic points at Colo, Wesen, Cressy, Ripley, Bowen Mountain, North Richmond and Clarendon.

Channel A was used for this event and in all cases direct communication was affected and maintained throughout.

ANNUAL DINNER, 1968

The Annual Dinner of the Convention for 1968 will be held at Windsor Gardens, 858 Monmouth Street, Sydney, on Saturday, 27th October on the North Shore of Sydney for its excellent catering and service, and Council fees considered reasonable. The dinner will be pleasant with the choice of this venue. It is used all year round for conferences, etc., requiring good taste and warm and comfortable surroundings. The menu will be of the highest quality and well served with generous helpings for all.

DURAL TRANSMITTING STATION

The transmitters recently delivered to Dural have created some interest and a brief description is in order. The transmitters consist of an r.f. unit capable of 500 watts aerial power and a modulator. This has been experienced in the installation of these transmitters and other equipment at Dural due to the lack of three phase supply, which at present is not available. Could it be rectified. The position should soon be rectified.

LECTURE CLASSES FOR A.O.C.F. 1968

Those intending or contemplating to sit for the Certificate in Wireless Technology are reminded that the classes at Wireless Institute Centre, Crows Nest, start in early February and early booking now is necessary. The year of the classes is quite limited. For those unable to attend in person, an excellent correspondence course is available. Enquiries should be directed to the Class Supervisor at W.I.C.

OBITUARY

J. K. RIDGWAY, VK3CR (ex VK3CR)

We regret to record the death on Tuesday, 17th October, of J. K. (Ken) Ridgway, VK3CR.

Ken first joined the W.I.A. in July 1941, and was soon engaged in Institute affairs. He was co-opted to the Victorian Division Council in April 1942 and elected Vice-President during the same year. In 1943 he received a Sub-Committee to form an Experimental Laboratory, and in 1944 joined a committee to organize an Amateur Emergency Network.

While engaged in all these activities, he found time to act as one of the instructors conducting W.I.A. classes for those who proposed to become members of the Services as W/T operators. He also constructed a number of audio oscillators which were hired out by the W.I.A. to those wishing to practice the code at home.

In 1942 he joined the staff of "Amateur Radio" as Technical Editor and also gave a great amount of assistance operating the duplicator, co-relating wrapping and addressing.

When licences were re-issued, Ken took out his call sign of VK3CR in January 1946. "Amateur Radio" became a printed magazine again in October 1946. Ken retained the position of Technical Editor until February 1948, when the pressure of business compelled him to resign.

He was one of the partners in the firm of Preston Electronics at Melbourne. When International Resistance Co. bought out Preston Electronics in 1948, he was appointed Chief Mechanical Engineer of International Resistance Company and moved to Sydney, where he took out the call sign of VK3CR.

In June 1967 Ken had to resign from business activities due to ill health. Although his health improved slightly, his illness caused his death in October.

The W.I.A. extends to his bereaved wife, Jenn, and daughter, Christine, deepest sympathy in their loss.

Bill Henry's comment summed-up the Institute's feelings when he said, "He was a real white man and one of nature's gentlemen."

BILL WEDMEYER, VK3DR

It is with regret that we have to report the passing of another of our radio fraternity in the person of Bill Wedmeyer, VK3DR. He died on the early afternoon of 17th October, aged 51 years, and leaves two children, a son of 17 and a daughter of 16.

He was originally a diesel mechanic, but gave up the trade and joined the A.M.S. Dept., of which he was on the staff at the time of his death. He got a limited licence since 1942 and he soon afterwards obtained his full ticket.

To his wife and family the Institute extends their sympathy in their loss.

HUNTER HEAVEN

Outstanding weather and an excellent attendance ensured success for the 1968 B.R.Q. contest on 17th Oct. The highly salubrious location at Bolton Point was again used (must get in a plug for the old home town) after a late start. The programme of hunts and other activities commenced. Tony ZCCT had some cunning hide-away for the first one and he fooled them all for a time at least. Then came another event, this time on 40 when David ZBSC, Jan ZBJO and Bruce approached what might be described as a low ceiling. The B.R.Q. was using such remote control devices as pieces of string and satellite relay (their explanation, not mine) they put a very cleverly designed, well defined location. Those with transceivers did some ever decreasing circles for a bit looking for the signal but we, the good old T. & C. did not have the facility in hearing it. What's 10 keywatts anyway? I

GEORGE GROVES, VK1YL

George Groves passed away on 11th October, 1967, at his age, 81, and looking back over the years, not so old, there are many incidents which can be recalled.

He spent most of his life in Devonport and was quite a brilliant scholar, concluding his education at the High School and entered the shipbuilding industry in the Steamship Co. of New Zealand in Devonport.

A great interest in radio developed and around 1929/30 a number of chaps got together to form the Devonport Radio Club under the call sign of VK1DR. The transmitter was a push pull 250w Hartley circuit, modulated by a pair of 200w in push pull—the results on 280 metres were excellent until the oscillator became unstable and the P.M.C. requested a crystal controlled transmitter. George, with an antenna, came to the fore and re-built the rig into the familiar 47 c.w., 40 buffer and a pair of 40s in the final.

About 1935, George was transferred in his employment to Melbourne where he used the call sign VK1KA, having taken out a licence in Tasmania in 1936 using VK1KA. He was a very successful amateur phone and c.w. and managed to make some large scores in the then Pisk Contest. Great interest was also taken in the Pisk working other stations was extremely difficult—no other Rams in that area.

With the years came the Second World War and George, now married, was stationed in Launceston where he still operated VK1KA. VK1YL followed and he was in the R.A.A.F. and was stationed for a long time at the Technical College, Melbourne, where his knowledge was of great use, and he spent some time in New Guinea. The subsequent demobilisation followed and George was back in his home town, where he was transferred back to his home town, Devonport.

Six metres interested him and during those early years on the very high frequencies, he worked many stations all over Australia, New Zealand and Japan, a first VK1/VK1 came to him during the war. Although interest in radio never waned, during those years he was keenly interested in survival, and he was a great collector of instruments on a number of instruments although he preferred the piano, he conducted his own dance band and was playing all his life.

Those who knew him of late years were familiar with him on the seaboard with a Swan 950 and rotary cabinet. His interest in golf occupied many enjoyable hours and it was here, on a golf course, where George went to meet the Great Operator.

can't tell the difference! Anyway, the outcome of all this was a win for Bill ZCZV who beat Len ERJ by a short head to the bluebirds.

After lunch it was on again. Notwithstanding the fact that the rules dictated that the serial number of the car was to be used in the event attracted a good field. My own secret weapon for this one didn't arrive in time or else I'd have been unbeatable. Anyway, relation to me. I'll be making 13 contacts in the half hour or so. Just as well I didn't give him a quiz paper or he'd have taken it all in. In fact, the car was divided into two sections this year with an especially hard bit for the licensees. John was a winner from Sydney, took the one while Neville Truist took the other. Then all again in the second division. The ladies were not forgotten either and Mrs. Branzton, a very good relation to me, took the one and the answers. Imagine what sort of a field would ask questions about the unit of currency in Afghanistan? Yes, the names of them (the hawks). The poor ladies were most bewildered. Later Mrs. Branzton told me that she was having second thoughts about entering the quiz but she decided to take it.

In the later afternoon a most interesting contest developed among the 2 m x boys when Tony's crew again went a-biding, but this time they were the losers. They were the ones and those tricky plans to hide the r.f. The result was another win for Len ERJ who found all three in the time allowed. Some of the gear used was of the 1950s and was of the old school occasion and flexible drives and angle gears

were the order of the day. For this type of thing, Ray McCook would nearly take the credit, as he is a practical mechanic. Of course those intrepid hunters, Paul 3ZFY and Vince 2ZOD, also had a great collection of the where-with-all in their four-wheel drive vehicle, as the A.R.C. says.

And so the field day came to a close with prize-giving performed by David 3BSJ who came all the way from his council duties in Sydney with Peter 3AXJ to represent the Division. Of course, as well as these prizes there were others for lucky numbers and V.F.S. blindfold is hunts and all that, but the mystery of them all was solved when it was announced that Tony 2ZCT had won the 'conductor's' prize. This was awarded to the gear, which, in the opinion of the audience at the October meeting, most deserved high praise.

Tony described a translator two metres in with a high power valve line. Others in this contest were Bill 2ZWM, who showed some fancy 6 mX gear; Mac 2ZMO, with a field strength meter; Jack 3ZT, with a universal test set; and Gordon 2Z8G, who told us all about a translator tester.

My new every one of you should have chosen a suitable prize to bring to the field day. I have asked for a 6 mX converter since I reckon that I'll be needing it to work all that DX in January. There'll not even be time to go to the meeting! Another reason for this is that there isn't a meeting in January, but we'll all be back again if we can drag ourselves away from the V.H.F. DX on Friday, 2nd February, 1968, in room 8 in the Clegg Building, Newcastle Technical College, Tighes Hill. Have a happy festive season and keep up the good work and use all the hands you can. See you all again after the holidays, so until then, Christmas and New Year 73, 2A3CC.

CENTRAL COAST RADIO CLUB
Simplified translator circuit design and ham radio in the early days were the topics for two talks given to the members at the October meeting. Lindsay 3ON enlightened many with his translator circuits and design techniques. Ken 2EEI, with the help of a tape made prior to the meeting, brought back the early days of 'hamming'. Unfortunately, due to sudden sickness, Major 1RU was not able to give his intended talk on development of communications over the years. Everyone wishes Major 1 speedy recovery.

Activity on 1 mX is on the increase with some half dozen on the air in the district. Also VK3AAK has taken to 'moon bounce' projects, and is in the process of building a special rhombic antenna for 2 mX. 3, Bill 3RTS.

VICTORIA

COUNCIL MEETING

Council met on 23rd Oct, all members excepting J. Taylor being present.

The following new members were admitted to the Division: VKA 2ZGX, 3ZFX, 3AHV, 3ZJC, 3OL, 3ZKA, 3Z2N, 3Z2W, and RUS as full members with Associates A. D. Baker, R. Chittock, P. R. Forbes and R. A. Eldred.

There was a discussion on the troubles being experienced with the official station SWL.

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Peter Ward has volunteered to organise a party to do essential maintenance on the equipment, and to facilitate this work, Peter has been appointed Assistant Technical Officer. It was decided to form a technical committee headed by John 3FE to investigate and report to Council on the defects and failings of SWL, and to recommend a suitable course of action to effect improvements. John is free to select the members of this committee. John 3FE is to act as liaison officer between the committee and the technical officers.

Discussion was also held on the subject of the proposed Worked All Victorian National Parks Award. It was resolved that the Pres. and the Secretary formulate the rules and inaugurate this award.

Other matters considered included the problem of obtaining permits to erect towers in the municipality of Waverley and Federal matters, neither of which were finalised.

It was decided to abandon the practice of holding the Annual Xmas Party. Among the reasons for this action was the fact that far too much work fell on too few people, the cost was not warranted, and the rooms are not a suitable location for such a function. We will, in future, hold a normal monthly meeting in December.

GENERAL MEETING

The general meeting was held at the rooms on 1st Nov. when Mr. R. Humphreys, of Defence Standard Laboratories, spoke on power supplies. The secretary outlined the proposal for the W.A.V.N.P. Award and a number of suggestions were made by members present. These will be taken into consideration when the rules are being formulated. Although the meeting was closed at 2330 hours, the strangers did not leave until just on midnight.

The December general meeting will be addressed by Robin Bailey, VK3ZAO, whose subject will be "Ionospheric Predictions".

INSTITUTE OF RADIO AND
ELECTRICAL ENGINEERS

RADIO FOUNDERS' DAY
ADDRESS

12th December at R.M.I.T. Radio
Lecture Theatre at 8 p.m.

Speaker will be Dr. W. A. S. Butem-
ment (VK3AD), subject will be "The
Amateur in the Development of
World Radio and Electronics."

Members of the W.I.A. are welcome to
attend, but as seating space is limited,
intending visitors are requested to phone
or write to A. G. Fisher (VK3VJ), 3 Rivers-
dale Court, Hawthorn, 3122, for an official
invitation.

EASTERN ZONE
I must commence these notes with an apology for lack of notes in Nov, in fact, I am sorry to have been so late. During the enjoyable QSOs with mobiles travelling through the Zone were made by the 6 and 8 mX operators. Gordon 3TH, of Vinnar, appears to be making some progress on the bands. We welcome to the Zone Trevor 3ZGA, of Newborough, who has recently been issued with his call sign. He is a big guy on 144 Mc.

Zone's first W.I.C.E. meeting was held on Friday evening, Oct. 6 at QTH of 3QZ. George 3ZCO reported the doings of the Zone v.h.f. who at V.H.F. Convention at Geelong on 10th and 11th October. Harold 3AFQ and Ken 3ACI made a trip to Lindenow, near Bairnsdale, where they served refreshments and took orders for 144 Mc beam. Translators. The School Youth Radio Club now has call sign 3ZOT. David 3ZOE is the push behind this one, and among the young members of the club, with whom I come into contact, 3ZOE is doing a mighty job. 73, Albert Cass.

MOORABBIN AND DISTRICT RADIO CLUB

The Club now meets in its new rooms at the Moorabbin Baseball Club in Burnside Avenue, Moorabbin. The first meeting to be held in the new rooms was the October general meeting, which was followed by a tape-recorded lecture on linear amplifiers for s.b. The new club rooms are ideal for meetings and social evenings, being self-contained and well equipped, but unfortunately, there is no room for an radio shack.

At the October social evening, held at the home of Kevin 3ARD, a highlight was the presentation to Laura Hall of a jewel case and 4 sheets of flowers, from the Club's appreciation for making the previous club room available.

The Institute Annual Dinner, consequently attendance at the Club was small. Final event of the year will be the Xmas Party in the club rooms on Friday, Dec. 18, 73. Alan 3ARL.

QUEENSLAND TOWNSVILLE AND DISTRICT

I shall take this opportunity to wish one and all a Merry Xmas and a Happy New Year, hoping that the New Year fulfils all your expectations of plenty of QSOs wrapped up in DX.

The last meeting of the local club only saw eight present with a couple of apologies from a few that are away. One of the chaps journeyed all the way from Charters Towers, some 80 miles distant. Just shows how a new one to the band can become interested. Xmas also promised to come if the boys put on the old time Xmas break-up.

Plans are under way to learn of how a few of the members raised some money for the club. It appears that on the grape vine one of the boys heard of a small chore that could be quite easily done. The boys decided to proceed to the building fund. So a quick round up took place and a few hurried notes to help out in the mammoth task of folding circulars and placing same in envelopes. Total sum, \$8.00, which earned the sum of \$78. Our thanks must go out to the ones who readily gave their time. So have a happy Xmas. There are other chores come their way. Call on yours truly next time.

Plans are under way to prepare the necessary paper work, etc., for the new club house. Feelers have gone out in many directions to raise the necessary finance. The building will be of first class materials. But will be the envy of all when it comes to fruition.

Eric 4EQ and her other half, Charlie 4QD, did take great part in the recent Scout Jam-boree, in setting up a station at the camp site of a half dozen Scout Troops at Bluewater. I take my hat off to these two for a job well done, thanks.

The club has managed to procure quite a lot of tubing, 8 ft. which they are selling to the local lads for their beam arrays. So it seems well that for the Role of the Year, this year, when the Z boys hope to work their share of the States and the DX that is offering.





Ipswich and District Radio Club's Public Relations Officer, Mr. Bill John, WIA-LK001, in the operating position of the club station VK4IO. Equipment includes 8C222 and home-brew three-band s.s.b. transceiver constructed by club member VK4SF. (Photo "The Queensland Times")

Seems hard to believe that I am about the only member of the club who was in the foundation of the club when it originally started. Here is hoping that at least some of the old originals rejoin in the New Year and help the new boys get the club house which we were unable to get in the past. All social chit-chat curtailed this time. So once again, cheers for the Festive Season. 73, Bob 4RW.

IPSWICH AND DISTRICT RADIO CLUB

I would like to wish everyone the Season's Compliments on behalf of all the Ipswich Radio Club members.

The past month was filled with activity for the club and its members. The 21st birthday party for our secretary, Phil 5ZFE, went off without a hitch.

It is with a little sadness we are saying "adieu" to Marie a.w.l. LK009, as she is leaving to join her OM, FWD, in New Guinea.

Several club members spent a most enjoyable week-end camping out at Wyberba National Park, near Stanthorpe, and the fact that

it rained almost all night did not dampen their enthusiasm. All made an assault on one of the close mountains nearby and the views from the top were most rewarding, however all attempts to contact club members back home on 40 m were of no avail.

Our Treasurer, Joan, and her OM, George 5ZLG, are off to ZI land and we wish them a happy holiday. While on the club members who are going away, Col. 4ZMA will be in VK3 for a couple of months in the Wagga Wagga area. He is on 53032 Mc. and plans to visit Melbourne while away.

The club's 80 m net at 8 p.m. on Mondays is to be changed to 20 m for a short time, the QRN on 80 m is getting a bit thick of a night now, the move to 20 m is only temporary until our new 2 m net can be operational. The club's new 2 m net is on 149.3 Mc. This was decided last meeting, so it seems as if there will be a large order for suitable rocks lodged soon.

The club members are planning to use xtal locked receivers for the net, and the units

are hoped to be both for mobile and home station use. The 6 m net of 53032 Mc. is not to be dropped, but as its use is restricted to non L.V. hours it is hoped the 2 m net will be able to be used at all times. The popular fox hunts can now be carried out on 3 m and all are looking forward to their starting again.

The Farnfest at Kingsliffe: The club hopes to have a good representation at the Farnfest to be held at Kingsliffe. Some keen members will spend the week-end under canvas, while others will probably take motel accommodation. Merry Christmas and a Happy New Year, 73, Warren 4GT.

SOUTH AUSTRALIA

The monthly general meeting of the VK3 Division for October was held to an average attendance of members and visitors in the club rooms, and opened right on the dot of 8 p.m. There were no apologies, no interstate or international visitors, and the minutes of the previous meeting were read by Tom 5TL, due to the temporary absence of the usual Minute Secretary. Very little Divisional or Federal business was discussed, although the matter of the electrical and contractors' licensing act was discussed by the Chairman, Murray 5ZQ, the matter of the availability of crystals was explained at length by Gilbert 5GX, who also spoke on the plentiful supply of resistors available to members both at the meeting and by writing in to the disposals committee, with special emphasis on the fact that the interests of country members were being taken care of with plenty to spare, full details of which would be available in the next issue of the journal.

The coming Xmas V.H.F. Group Picnic and Barbecue, two separate events, were announced, and Geoff 5TV gave details of the participation of W.I.C.E.N. members in the recent E.F.S. procession, and thanked members for their interest and enthusiasm for anything in connection with W.I.C.E.N. activities.

At this point, members were asked to stand in silence for one minute in respect for the passing of VK3 Life Member Professor Sir Kerr Grant, and a suitable expression of sympathy was expressed by the Chairman.

The business side of the meeting now being concluded, 5SL cards were distributed by George 5JX and a smoke-on was announced, after which the decks were cleared for the main form of entertainment for the night, to wit, a jumble sale, which is the VK3 way of saying, a buy and sell night, and with all the members present eager to give the auctioneer for the night, a suitable welcome—not so suitable to the auctioneer—the name of Warwick W, Parsons, 5PS—Paddy to you—was announced with all the pomp and splendour, to say nothing of the necessary interjections and coarse remarks, usually associated with such an event. Now there is very little that can be said about such a night that has not been said before, so I will not labour the point. (Hurrah!!—Ed.)



The club house of the Ipswich and District Radio Club situated in Desbina St., Ipswich, which was built by club members on land donated to the club by Ipswich City Council. (Photo "The Queensland Times.")

Noticed a real stranger at the meeting, none other than Lionel SLQ whose happy and ebullient personality has been a boon for many a long year. Not very active, but still interested in the hobby, he told me, when I asked him if he was on the air these days, that he had been on that evening when he worked Aflol SLQ to say that he would be along to the meeting.

Talking to Jim Q, I usually manage a paragraph about him each month, but he is at the moment in my little black book as a possible user of "The Thing."

And I must mention the month from an unknown, and unexpected, voice who said in honeyed tones that a certain Mr Pincott, of 122 Kingswood was coming to the meeting in VK3 that there were two things that should never be missed if ever passing through Adelaide, to wit, the River Torrens and none other than Pincott. The voice, who I have identified himself as Pierce 2APQ, the VK3 Federal Councillor, who was on his way home from Mount Gambier, and Victoria, from the Upper Murray district.

Realising that Federal Councillors were somewhat rare and august personages, especially in my area, I suggested that I must precious thoughts and invited him and his family to visit my bark but and partake of some burnt soup and fried fish.

This was where I made my first mistake. No sooner had I met his XYL daughter and son-in-law, a charming threesome, if I might say so, than the conversation turned drift towards "The Thing," and no matter how hard I tried to stifle such tendencies, I was overcome by superior numbers. To make matters worse, after the evening was forcibly dragged out to the car parked in the scrub alongside my QTR and, under the threat of injury, forced to examine what is probably the roughest edition of "The Thing," I was under the dash that I have ever seen, and horror of horrors, even forced to handle it.

To add to the indignity, before I could even say product detector, or even harmonic oscillator, the said miniature "Thing" was bodily transported to my shack, connected to my electrically connected to my shame stricken antenna, and J.A.S. was ZLs, etc., etc., worked with reckless abandon. I have never been so mortified in my whole life, and I am sure that something could happen to me, and all without as much as by your leave. Anyway, despite their attempts to brainwash me on the merits of "The Thing," I thoroughly enjoyed their short visit and was sorry to see them leave, but I am finding it a little monstrous to have my XYL and son-in-law, after provocation, keep on saying "Why don't you buy one of those things that Pierce showed up, plus the 1000." "The Thing" makes it sound like an art treasure, rather than the monstrosity that it really is. Nice to have met you Pierce, although my social has never forgiven me for not seeing all those signals that you could hear on "The Thing" have vanished, which only goes to show just how ashamed the reality really is!

The latest news on Jim Paris—one time Associate members' representative—is that he is slowly on the mend from his heart trouble, and is providing the normal care, all will be well. Good news Jim!

George SCV will be looking for my blood, in a store, as he has been referred to him as being of "Thunderbird" fame, when it should have been "Firebird" fame. Will you forgive me George? I thank-you I thank-you!

Most members of the VK3 Division will have noted with sincere regret the passing of Professor George C. O'Brien, a man who, though old, but few are aware that he was a Life Member of the Division, an honour bestowed upon him many years ago for his interest and contribution to the University and the club. A regular guest speaker at the Xmas sales pre-war, he will always be remembered for his gentle, but firm, and often humorous and complicated matters in a simple, amusing and charming manner.

The subject of as many warmly humorous and as many as any notable Australian, most of which related to what was supposed to be his excessive professional absent-mindedness, he was a real character, a man of humour and an unerring ability to get close to his often bolder young students. His students took a great delight in pushing him to the limit. He travelled a virtual 150,000 trouble-free miles—out of sight round a corner of the Physics Institute, and back to the University, and the "Prof" to look for it at the front, talking aloud to himself and pretending that he could not remember it straight at me. Realizing that if he had, where had he parked it?

On the occasion of the professor's 50th year of teaching at the University of Adelaide, the daily paper feature writer, Stewart Cock-

burn, wrote: "The University sometimes needs a bridge to span the intellectual chasm between its cloisters and the community at large. For as long as most people can remember our University has possessed such a bridge in the person of Professor Sir Kerr Grant."

The Division has lost another of its Life Members, and a good friend as well.

What does one do when a friend of long-standing association in Amateur Radio decides to lower the flag of allegiance and turn renegade? The first hint came from one of my spies who sighted a certain gentleman from out Kingswood way boarding the Overland en route to VK3, and returning next day. The second warning came from a source planted in the freight department of a certain airways who informed me that there was a large haul of heavy parcel awaiting collection by the said certain gentleman from out Kingswood way. The third and final warning came when I resolved a very strong signal on 14 Mc. and from it came the voice of the certain gentleman from Kingswood way—by now certainly no gentleman in my eyes—quacking his way enthusiastically to all and sundry throughout the world, and when I asked the way, I definitely made the world! Yes, you have guessed it, Cec SRZ has defected, and is enjoying every minute of it!



ARCH VK3XXZ/2 IN "LOFUS LAND."

ON LOR LOWE ISLAND

Arch reports having a good restful holiday. So balmy were the days, he was more inclined to relax and chew the fat. However, several hundred QSOs were made and many European countries worked. Arch also admits to enhancing the euphoric environment of the island by occasional libations to his better view when out on the side of the local Bowls Club. He describes it as a "Choir Session." (Sounds like a perfect way to top off a day OM. Nice work; where to next year?)

Putting my pride in my pocket—or what serves these days for a pocket—I decided to ring him and hear the worst, and would you believe it, he had the audacity to tell me, without even batting an eyelid, that he had more fun out of Amateur Radio in the last three months than in all of his previous years, and he regrets not having taken the step a lot earlier. May I be permitted to ring down the curtain on such a world story before I break down and burst into tears of disappointment at human nature!

Have just returned from my short visit to Ballarat, quiet unscathed, and in my little sign-seeing car, I arrived at the area well impressed with one or two of the beams that stood so proudly in the skyline. At one of these installations I had stopped the car to take a better view, when out of the side of the house appeared a female figure with what appeared to be some sort of a space weapon and pointed it straight at me. Realizing that Pincott (JAF?) must have tipped them off in Ballarat of my presence, I waited not upon the order of my going, and took off at all of 10 m.p.h. My XYL said that the lady only had a hose with a sprinkler on the end, but

don't you believe it—I know those VK3s—and I reckon I was lucky to have escaped. What was I doing? Well, I was just being a member was adjudicating at the annual physical culture competitions held there, and I felt that they should need some protection from those rough VK3 types.

On the way to Ballarat I naturally passed through Nairne, and it goes without saying that I should have made it never dawned on me that it belonged to Sec AGP until I was well into it. I don't recall how I had stopped long enough to say hello to him. When I found that the beam was certainly a landmark, he somewhat pugnaciously said "and it works too," but I was not aware of him. I was totally in view of the bunch of cards that he had just collected from George SRZ. For I was mobile on my recent trip to Perth. I don't recall to him that I had made a decided improvement on the 13 wats of the old one, and judging by the signal that I heard a couple of miles away, I was right.

Dave SDS heard on 63.1 Mc, the other night, not from his QTR but from the station of BQ, whom he was apparently visiting. How did it go? Well, I was sure that Dave was sure that little something about the voice that gave him away—Hoot Man!

Our wandering one-man DX expedition, Arch SCX, was the success of Geoff's (STY) talk to the Black Forest Methodist Men's Fellowship recently he has received an invitation to visit his club in the near future. This is quite good publicity for W.I.C.E.N., and a few eyebrows were raised at his first talk, when he explained just what was being done at a bureau of his in their own time, and at their own expense, to try and help should the occasion ever arise.

Noticed that the new call sign books were going off like hot cakes at the time. I was once again the reaction of the buyers was more than favourable. I wonder just how long it will take to get the books out. So much work and time goes into this excellent production, all voluntary at that. It is against my principles to hand out bouquets to any body, but I must be concerned with the back for their efforts in this direction, even if I have to include Pincott (JAF?) in these thanks. I hurt me though not hurt me.

Due to a mix-up, the reason not disclosed, a recent edition of the VK3 WIA notes in the local paper appeared under the heading of "Prices for vegetables," much to the delight of my fans and my natural discomfort. Don't bother to ring or write me regarding the prevailing price of raspberries, everybody else has the answer.

Arthur SHY rang me this week to let me know when was the best time for me to bring my granddad out to the QTR next month to see the club. He was a bit rough on the celestial beings. During the conversation he told me that recently he had a bunch of visitors from the States, and after the viewing was finished they brought up the question of Amateur Radio, and the result was that Arthur packed the 35 or so visitors inside his shack, and made contact Heald Island, with the chapie at the island giving the youngsters a run down on the life and history of the service, and as much to the youngsters' delight. I understand that the walls of the shack still show a slight outline of Bulger.

A rather nasty rumour has just reached me that Jim SFO has joined the renegades and has been quack-quacking all over the place. With all these assertions from my friends, I hope SEF will have to get himself a bigger black book to write the members of his poultry farm down. You know what you can do with your little black book, Corrie.

Well, here we are again, the Festive Season is upon us, and naturally on behalf of the Council and members of the VK3 Division I extend to all the other Divisions and members the Compliments of the Season and all that goes with it. To the users of "The Thing," may I say that I am sure that you will have three weeks, this is your most dangerous time, many a quack has stopped suddenly around the 34th of this month. Anyway, why should I extend to all the other Divisions and members the hatches!! 73, de SPS—Pansy to you!

WESTERN AUSTRALIA

CQ, CQ, gather round mob, and let us see if we can rattle your speaker cone. Firstly, let's count noses and see just who is present and who is A.W.L. There has been so much East-West traffic lately that I have had to keep accurate records of all the comings and goings. I do know however that among the inwards traffic over the last few months there have been some very well known personalities: Dudley 2DQ, Arle 2A7A, Lew 3LW, Reg 2BK1. This is where I start running into trouble because there are many others of whom I have made no mention—excuse please!

Bill 6WY has been doing stirring work extending hospitality to various visitors and it was at Bill's QTH that I had the pleasure of an eyeball with Jan Andersen, LASTI/MM, who was in port for a few days. This call sign must surely have roused a few eyebrows when heard on 8 m, particularly in view of the recent JA activity. Not many legs can boast LAS among their pages. I understand that Graham 6ZEE is going to frame that particular page.

It did these tired old optics a heap of good to see the walls of the Chemistry Lecture Theatre start to bulge under the strain of the huge attendance at the October meeting. If anyone had told me about it I would have been inclined to give them the fishy stare—but seeing is believing. Seating accommodation was taxed to the limit, in fact quite a number of late-comers had to acquire chairs from other rooms. Of course they replaced them afterwards! At the moment, the reason for the recent turnout is still undetermined, perhaps the ever popular JANC which followed had something to do with it.

No further information to hand at the moment concerning the Zone 29 Award, but keep watching this page, as they say in the newspapers.

And talking of newspapers, which we weren't, but we will, did you see the illustration and write up about Wally 6AG in the local? Quite a photogenic old gentleman if I may say so.

John 5ZFD has again turned his back on the glittering illuminations of the city and

clutching such vital travelling equipment as toothbrush and 6 m x mobile gear, has made off into the gathering twilight. John will be completing his lecture on 10 m x anywhere, Hayden way, so keep an ear to the ground for him.

According to John 6ZW, signals he has been receiving from the East have been so strong lately that his garden shrubs have taken on a decided tilt to the West. What do you think?

Heads as though John 6HJ is preparing for bigger and better DXing from Blinn, one of my speakers here, obscure location, and John has been putting out a very healthy signal on 40 m.

It's not very often that a Ham will openly admit to "swinging the lead". Not so Bob 6HG, but it's not as bad as it sounds because the aforementioned action was all in a good cause. The result was 10 m x anyone, carefully oriented to favour the Eastern States. The new wire plus a new v.f.o. has enabled him to fire up on 40, but black and alas, there are all the other stations to contend with.

What did you think of the interference tapes which were re-played on the new broadcasts recently? Generally well received. I dedicate an admiration for the equipment and methods used to analyse and identify the offenders. It will be interesting to see the Report Form sent to me. I have no doubt it is hoped that some effective means will be found to remove the interlopers—lost sweet. Haven't heard much of Ian 6CX since his return from overseas, but I suspect he is putting in a bit of extra right effort to catch up with Pat 6EY and Andy 6CXV in their quest for the DXCC. Right then, 5V0KV will be V's new call sign when he commences to shake the snow out of his sleeve.

Incidentally, Vic's departure from this Division left a vacancy in the ranks of Council recently. Generally speaking, I have a little admiration for the mutual benefit of all concerned. Thanks for stepping into the breach OM. Heartiest congratulations to VKC Division for their concerted effort in winning the B.D. Contest this year. A word of commendation to two of our runners-up, Ben 36, East Melbourne, ace of carrying off the trophy. Well done all—but look out, we'll be trying harder than ever next time.

Well, that just about winds it up for now, all that remains is for me to offer sincere good wishes for the festive season from our Division to your Division.

A Merry Xmas and a Happy New Year.

TX, Ross 6DA.

HAMADS

Minimum 50c for thirty words.
Extra words, 2c each.

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ANY offers for gear advertised last month? Alf Chandler, VICSLC, Phone 50-2536 (Melb.).

COLLINS TCS-6 Transmitter and Receiver and Speaker, with 230V. a.c. power supply Type S, connecting cables and handbook, \$60.00 the lot. O'Brien, San Remo, Vic., Phone 107.

FOR EXCHANGE: Will swap 6 and 2 metre gear for equiv. in photographic equip., particularly on 35 mm. T. Higgins, VICSTH, 24 Stapley Cres., Chadstone, Vic. Phone 56-3622.

FOR SALE: Altimeter "Kollman," guaranteed accurate, ideal for survey purposes or v.h.f. field work. \$30. Also Bendix Freq. Meter and Calibration Box, \$29. VK3AOK, Phone 50-9168 (Melb.).

FOR SALE: Galaxy V. Transceiver plus Galaxy Callibrator, with a.c. power supply, Edystone speaker, some miscellaneous p.t.s., and 10 m x antenna. Includes manuals, in excellent condition, \$430. VK30U Tri-band Beam with tuning unit, prop. pitch motor, selenium indicator, power supply and cables, and 40 ft. self-supporting tower, reasonable offer. Bill Clowes, VK3RQ, 4 Nicholson Rd., Subiaco, W.A., 6008.

FOR SALE: Galsco G229 Receiver, O Multiplier Off-1, pre-selector, 180 mhz converter, \$300. Wanted: Cabinet for 21 in. Precedent T's. Wm. F. Sievers, 122 Ormond Rd., Toorak, Vic., 3142. Phone 24-4154.

FOR SALE: Heathkit MT1 80-40-20-15-10 a.m./c.w. Transmitter, 80 watts c.w., 35 watts a.m., complete with Heathkit HP28 a.c. power supply and v.f.o. and v.h.f. sections. VK4KJ, 27 Orley St., Edge Hill, Adelaide, Phone 53-2068.

FOR SALE: Oregon mast 38 ft. 4 x 4 inch, complete with climbing facilities and anchor rope, etc. \$20. ATS Transmitter, complete, and 12V. to 220V. 40 mA. c.s. Rotary Transformer—What offers? VK3LS, Phone 378-3819, 5 Hillside Place, Strathmore, Vic.

FOR SALE: Transmitter, Heathkit Apache, with SB-10 s.b. adaptor, mhz, \$200. VK5SD, 2 Claring Bold Rd., Christies Beach, S.A.

FOR SALE: V.h.f. Transceiver, Heath HW20, 144 MHz. V.h.f. plus 4 switched xtal positions, sens. less than 1/4 mV, QCC312 final, c.w. and phone, 10 built-in d.c. power supply for mobile use, instruction manual, will consider same. \$190. VK3AOK, Phone 50-9168 (Melb.).

FOR SALE: (1) A.W.A. 352 Receiver, 200 Kc. to 30 Mc. complete with built-in 240V. a.c. power supply and 5 meter; good condition, \$35. (2) 3 k.v.a. 240V. 50 cycles Pertron Driven Alternator, complete with 1000 ohm 5000 ohm 4-cyclotron engine and control box; all on wheeled trolley; i.b. condition, \$200 or near offer. Hepburn, 4 Elizabeth St., East Brighton, Vic., 3187, Tel. 96-2414 evenings.

GALAXY V. and Galaxy V.h.f. with a.c. power supply, guaranteed new, retired from Ham Radio, give away at \$500. J. Marston, 107 Aberdeen Pde., Bouldell, Qld. (Brisbane Phone 69-1645).

SALE. Specials for 50W's: General Coverage Receiver: Marconi CR100, 12 valves, 4 dipoles, \$80; AR7, 12 valves, rack mounted, \$50; AM620 plus LF R.F. bands, 130 Kc. to 30 Mc., 23 valves, in 3 f. rack, \$130. Ham Bands only: 16 valves, 5 dipoles, Gelsco Front-End, \$5 Kc. to 1/2, \$100. Receiver powered by 5000 ohm 4-cyclotron engine, detector and noise limiter. All in very good condition. H. L. Roach, 28 Foster Ave., Glenhuntly, Vic. Phone 58-3757.

SELL: Channel Master TV Aerial Rotary and Direction Control Unit, ideal for v.h.f. beams. Little used. \$25. Hoffmann, VK4ZKH, 10 Bruce St., Toowoomba, Qld., 4330.

SELL: One Fly Base, low band, less xtal, good condition. Also one Contax Telephone converted to 2000 Hz xtal, in clean condition, 1000 ohm coil, returned. VK3UT, Private Bag 45, Warrnambool, Vic.

SELL: Z Match Antenna Coupler, 80-10 mhz. \$30. Heathkit SWR Bridge \$20. 522 Tx with a.c. p.d. complete with bias supply, \$32. Large Edystone Tx Dial in prof. black crackle cabinet, has temp. comp. 2000 Hz xtal, 25 mhz wide spread beam 1 1/2 to 1 1/4 in. diam. elements, all aluminium including 21 ft. boom, \$44. Dow Key Antenna Change-over Relay, 110V. a.c. \$18. 200V./10V. 300W. Auto Trans. \$5. 6 m x home-brew Low Pass Filter, \$4. 3 only Auto Electronic Testmeter (v.t.v.m. and multimeter). Model 4, as new, \$65. Tx or Rx cabinet, large Meter, 12 mhz. and chassis, \$4. 2 only Multimeters, \$3. 1x Valve and Circuit Tester, \$15. Assort. R.H.s. and A.R.s., approx. \$50. 10 only 120V/7, 2 only 12AX7, 10 only 6X4, 10 only 6X5, 10 only 6X6, 10 only 6X8, 10 only 6X9, 10 only 6X10, 10 only 6X11, 10 only 6X12, 10 only 6X13, 10 only 6X14, 10 only 6X15, 10 only 6X16, 10 only 6X17, 10 only 6X18, 10 only 6X19, 10 only 6X20, 10 only 6X21, 10 only 6X22, 10 only 6X23, 10 only 6X24, 10 only 6X25, 10 only 6X26, 10 only 6X27, 10 only 6X28, 10 only 6X29, 10 only 6X30, 10 only 6X31, 10 only 6X32, 10 only 6X33, 10 only 6X34, 10 only 6X35, 10 only 6X36, 10 only 6X37, 10 only 6X38, 10 only 6X39, 10 only 6X40, 10 only 6X41, 10 only 6X42, 10 only 6X43, 10 only 6X44, 10 only 6X45, 10 only 6X46, 10 only 6X47, 10 only 6X48, 10 only 6X49, 10 only 6X50, 10 only 6X51, 10 only 6X52, 10 only 6X53, 10 only 6X54, 10 only 6X55, 10 only 6X56, 10 only 6X57, 10 only 6X58, 10 only 6X59, 10 only 6X60, 10 only 6X61, 10 only 6X62, 10 only 6X63, 10 only 6X64, 10 only 6X65, 10 only 6X66, 10 only 6X67, 10 only 6X68, 10 only 6X69, 10 only 6X70, 10 only 6X71, 10 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